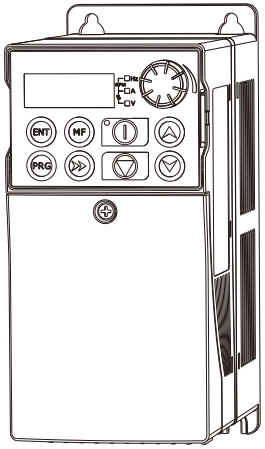
HuaYuan

S100 Series

Compact open-loop vector frequency converter

Power Range：0.4kW~7.5kW

User Manual



Version 1.0

Always read this manual carefully for the safe use of this product.

Preface

This manual introduces the functional features and usage of the S100 Series Compact OpenLoop Vector Inverter, including product selection, installation and wiring, parameter settings, operation and debugging, and fault diagnosis. Please be sure to read this manual carefully before use. Improper usage may lead to abnormal inverter operation, faults, reduced service life, or even equipment damage and personal injury.

Only an electronic version of the user manual is provided for this product. You may obtain it through:

1. Scan the QR code on the front of the product using a mobile phone to read or download the manual online.
2. Search and follow the "Huayuan Electric" official WeChat account. In the "Read & Download" section, you can read or download user manuals and brochures of relevant series products.

Our company is committed to continuous product improvement and upgrades. If any changes occur to the hardware, software, or documentation, we apologize that no further notice will be provided.

Version: V1.0

Revision Date: June 2025

Safety Instructions

Unpacking Inspection

After opening the package, please check whether the inverter body and accessories are damaged during transportation, and confirm that no components are broken or missing. The package should include the inverter unit you ordered, the product certificate, and the warranty card. If any item is missing or damaged, please contact your supplier immediately for assistance.

Before opening the package upon delivery, please verify the following:

1. Whether the outer packaging is damaged.
2. Whether the model and specifications on the label match your purchase order.

Safety Precautions

The safe operation of this product depends on proper installation, operation, maintenance, and servicing. Please be sure to read this manual carefully and pay attention to the safety-related instructions contained herein.

- Use this product only after becoming familiar with the inverter's functions, safety information, and all precautions.
- This manual should be kept in the hands of the actual user.
- This manual classifies safety levels into "Danger" and "Warning", indicated by the following symbols:

DANGER :If not avoided, will result in death or serious injury.

WARNINGA :If not avoided, may result in death or serious injury.

Depending on the situation, items classified under the "Warning" level may also lead to serious consequences. Please be sure to follow the precautions of both levels, as they are equally important for personal safety.

① .Scope of Application

⚠WARNINGA

(1) Not applicable for machines or systems that may put human life at risk.

(2) If a serious accident or significant loss is expected to occur due to a malfunction of this product, be sure to install appropriate safety devices.

② . Installation

⚠DANGER

(1)Please install the inverter on a non-combustible surface such as metal to avoid the risk of fire. ·

(2)It is strictly prohibited to install the inverter in environments containing flammable materials or explosive gases, otherwise there is a risk of explosion.

⚠WARNINGA

(1)Securely install the inverter on a surface that can support its weight; otherwise, there is a risk of injury or equipment damage if it falls.

(2)Do not allow metal foreign objects to enter the inverter, as this may cause an accident.

(3)Do not install or operate a damaged inverter, as it may result in an accident.

③ . Wiring

⚠DANGER

(1)Install a circuit breaker on the inverter's power input side that matches the inverter's capacity; otherwise, it may result in personal injury, equipment damage, or other accidents.

(2)The PE terminal of the inverter must be reliably grounded; otherwise, there is a risk of electric shock or fire.

(3)Tighten the screws on the power input terminals and motor output terminals; otherwise, a fire hazard may occur.

(4)Wiring must be carried out by qualified personnel.

(5)Wiring operations must be performed only after confirming that the power supply is turned off and the inverter's power charge indicator light is off.

WARNINGA

(1)The input power supply must match the specifications on the inverter nameplate; otherwise, the inverter may be damaged.

(2)The power input wires must never be connected to the inverter's output terminals (U, V, W); otherwise, the inverter will be damaged.

④ . Operation

DANGER

(1)Do not turn on the power before the inverter cover is properly closed; otherwise, there is a risk of electric shock.

(2)After the inverter is powered on, do not touch the main circuit terminals even when the inverter is in a stopped state; otherwise, there is a risk of electric shock.

WARNINGA

The inverter should be stopped using the "  " key on the operation keypad or through external start/stop terminals. Do not stop the inverter by directly cutting off the main power supply, as this may damage the inverter.

⑤ . Maintenance

DANGER

(1)Inspection or maintenance of the inverter should only be performed after the internal charge indicator light is off or at least 10 minutes after the power is disconnected; otherwise, there is a risk of electric shock.

(2)Only professionally trained personnel are allowed to perform maintenance on the inverter; otherwise, electric shock or personal injury may occur.

WARNINGA

(1)Do not leave conductive objects such as metal inside the inverter after maintenance; otherwise, it may cause damage.

(2)Before reusing an inverter that has not been used for a long period, the internal capacitors must be recharged. Use a voltage regulator to gradually increase the input voltage of the inverter (not exceeding its rated input voltage); otherwise, an accident may occur.

⑥ . Disposal

WARNINGA

(1)When the product is disposed of, it should be treated as industrial waste; otherwise, it may lead to accidents.

目录

1. Product Overview

The S100 Series inverter is a compact open-loop vector inverter developed based on our company’ s second-generation platform. It is primarily used to drive single-phase and three-phase AC asynchronous motors. The S100 Series adopts V/F control and open-loop vector control technology, featuring high torque output at low frequencies, fast dynamic response, and strong overload capacity. It is widely applicable in industries such as textiles, food processing, packaging, and woodworking engraving.

1.1 Product Model Description

S100-2S00041N-A

Serial number	
S100	Asynchronous motor

Voltage class	
2	220V
4	380V

Phase number	
S	Single
T	Three

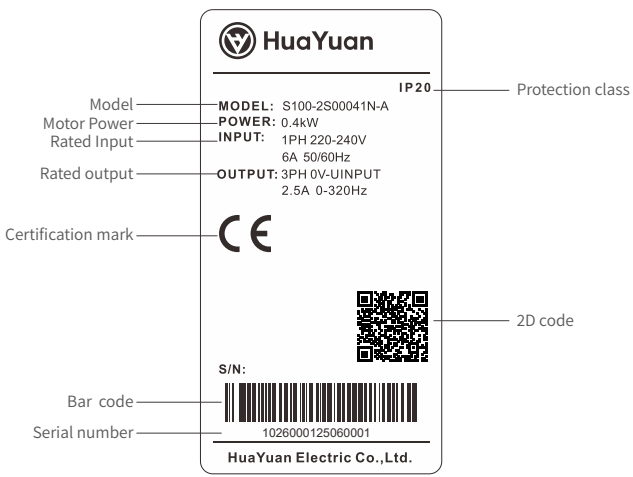
Power level(kW)	
0004	0.4
0007	0.75
0015	1.5
…	

Structural Frame	
A	Size A
B	Size B
C	Size C

Applicable Motor Type	
N	Normal Duty

Power Class	
1	<10kW
2	10~99kW
3	100~999kW

1.2 Product Nameplate Description



2. Installation and Wiring

This chapter provides the correct methods for installing and wiring the S100 Series inverter.To ensure system safety and proper operation of the equipment, please read this manual carefully before installation. When performing wiring, be sure to follow the wiring instructions provided in this chapter.

2.1 Installation

① . Installation Environment Requirements

※The operating ambient temperature range for the inverter is -10° C to 40° C. If the ambient temperature exceeds 40° C, choose a well-ventilated location and reduce the output rating by 10% for every 5° C increase, with a maximum temperature limit of 55° C.

※If installed at an altitude above 1000 meters, derating is required.For every 1000 meters of elevation, reduce the inverter’ s output current capacity by 10%.The maximum installation altitude is 3000 meters.

② . Installation Site Requirements

※Avoid locations with high temperature and humidity. The humidity should be less than 90%, non-condensing, and frost-free.

※No water droplets, steam, dust, or metallic particles.

※Keep away from flammable, explosive, and corrosive gases or liquids.

※The mounting surface must be solid, with vibration less than 5.9 mm/s^2 (0.6g).

※Keep the inverter away from sources of electromagnetic interference (EMI).

③ . Installation Clearance and Orientation

The inverter adopts a wall-mounted installation method. The spacing and clearance requirements for a single inverter installation are shown in Figure 2-1.

When installing two inverters vertically (one above the other), a ventilation baffle must be placed between them, as shown in Figure 2-2.

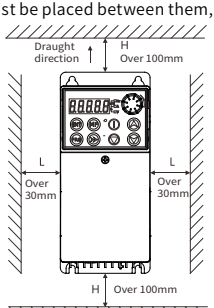


Figure 2-1 Installation Clearance Dimensions

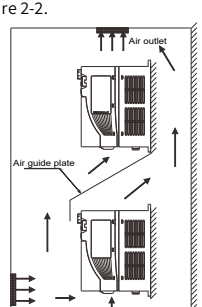


Figure 2-2 Vertical Installation of

Power Ratings	Dimension Requirements	
	L	H
0.4kW-7.5kW	⩾ 30mm	⩾ 100mm

When two inverters are installed side by side (left and right), the spacing between them must be no less than 20 mm, as shown in Figure 2-3.

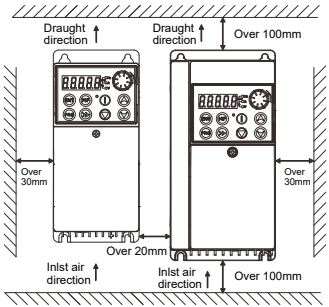


Figure 2-3 Side-by-Side Installation of Two Inverters

WARNINGA

(1) The higher the ambient temperature, the shorter the service life of the inverter.

(2) If there are heat-generating devices near the inverter, move them as far away as possible. In addition, when the inverter is installed inside an enclosure, full consideration should be given to vertical clearance and internal space to ensure proper heat dissipation.

④ . Installation Method

This product adopts a wall-mounted vertical installation method. Refer to Appendix III for the mounting hole dimensions.

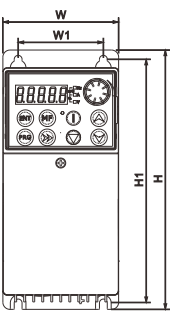


Figure 2-4 Wall-Mounted Installation Diagram

2.2 Wiring

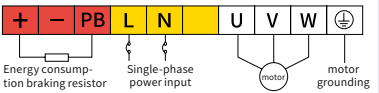
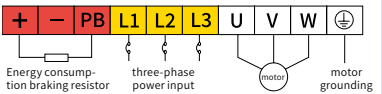
The wiring section of the inverter is divided into the main circuit and the control circuit.

Users can open the front cover of the housing to access the main circuit terminals and control circuit terminals.

The wiring must be carried out correctly according to the diagrams and instructions provided below.

① . Main Circuit Wiring

Main Circuit Terminal Description

Voltage Class	Model Type	Terminal Wiring Description
220V	S100-2S00041N-A S100-2S00071N-A S100-2S00151N-A S100-2S00221N-C S100-2S00401N-C	
380V	S100-4T00071N-A S100-4T00151N-A S100-4T00221N-A S100-4T00401N-B S100-4T00551N-C S100-4T00751N-C	

Main Circuit Terminal Symbol Description

Terminal Symbols	Function Description
L、N	Single-phase 220V AC Power Input for Main Circuit
L1、L2、L3	Three-phase 380V AC Power Input for Main Circuit
U、V、W	Connect to Three-Phase AC Motor
+	DC Side Positive Voltage Terminal
-	DC Side Negative Voltage Terminal
PB	A braking resistor can be connected between terminals + and PB.
⏚	Ground Terminal

⚠ WARNINGA

- There is no phase sequence requirement for the power input wiring on the inverter’s input side.
- For main circuit terminal wiring, please select the appropriate size copper conductors based on the recommended values in Appendix IV, and ensure the installation complies with local regulations and relevant IEC standards.
- The cable from the inverter to the motor should avoid running parallel to the power supply lines (L1, L2, L3); a separation of at least 30 cm is recommended.
- It is forbidden to connect other equipment to the inverter’s power input terminals (L1, L2, L3), and the output terminals (U, V, W) must never be connected to a power supply. Do not connect capacitors or surge absorbers to the output side.
- A non-fuse circuit breaker must be installed between the power supply and the inverter to prevent secondary damage or fire caused by inverter failure.
- The inverter does not contain an internal braking resistor. For high-inertia loads or frequent start-stop applications, an external braking resistor must be installed. When using an external braking unit, the wiring length from the inverter to the braking unit should not exceed 10 meters, and the wiring from the braking unit to the braking resistor should not exceed 5 meters.
- The inverter’s ground terminal (PE) must be reliably grounded. The grounding resistance must be less than 0.4 Ω. Do not share the ground terminal (PE) with the neutral terminal (N).
- The specification of the inverter grounding wire can be selected according to the table below:

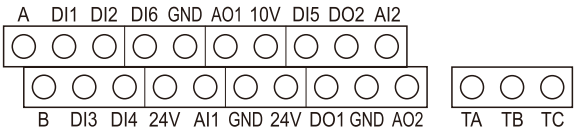
Cross-Sectional Area of a Single Phase Conductor（S）	Minimum Cross-Sectional Area of the Grounding Wire（S1）
$S \leqslant 16mm^2$	S
$16mm^2 < S \leqslant 35mm^2$	$16mm^2$
$35mm^2 < S$	S/2

- The inverter grounding wire must use a yellow-green cable.

② . Control Circuit Wiring

Control Circuit Terminal Description

Control circuit wiring must be routed separately from the main circuit wiring and must not be placed in the same cable duct.

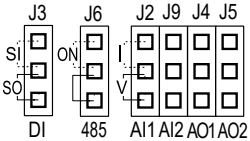


Control Terminal Symbol Description

Category	Terminal Symbol	Function Description	Technical Specifications
Digital Input Terminal	DI1	Multi-function digital input terminal 1	Leakage (S0) and Source (SI) selection available. When the input is an analog signal, the high/low threshold voltage is 5V; When the input is a digital signal, and low-level is active, the logic threshold voltage is 18V, sampling cycle is 2ms; When high-level is active, the logic threshold voltage is 5V, sampling cycle is 2ms;
	DI2	Multi-function digital input terminal 2	
	DI3	Multi-function digital input terminal 3	
	DI4	Multi-function digital input terminal 4	
	DI5	Multi-function digital input terminal 5	
	DI6	Multi-function digital input terminal 6	When DI6 functions as a multi-purpose digital input terminal,If input is analog, the high/low level threshold is 10V;If input is digital and low-level active: 12.8V is low, 13.6V is high; If high-level active: 9.8V is low, 10V is high; When DI6 serves as a high-speed pulse input, the signal specification is: voltage range 10V–30V, frequency range 0Hz–100kHz.

Category	Terminal Symbol	Function Description	Technical Specifications
Run Status Output	DO1	Programmable Digital Output 1	24V/50mA power supply available; DO1 can serve as high-speed pulse output, with max frequency up to 100kHz.
	DO2	Programmable Digital Output 2	
	TA TB TC	Multi-function Relay Output TA–TB: Normally Closed TA–TC: Normally Open	Contact Capacity 250VAC，3A（cosφ=1）， 250VAC，1A（cosφ=0.4）， 30VDC，3A
Analog Input	AI1	Analog Input1	Voltage or current input for AI1 and AI2 can be selected via jumpers J2 and J9. Input range: Voltage input 0–10V, Current input 0–20mA Input impedance: Voltage input 22kΩ, Current input 500Ω
	AI2	Analog Input2	
Analog Output	AO1	Analog Output1	Voltage or current output for AO1 and AO2 can be selected via jumper terminals J4 and J5. Output voltage: 0–10V Output current: 0–20mA
	AO2	Analog Output2	
RS485 Communi-cation	A	RS485 Differential Signal Positive	MODBUS RTU Communication Protocol
	B	RS485 Differential Signal Negative	
Power Supply and Reference Ground	10V	+10V Power Supply Terminal	Output: 10V, 20mA, Accuracy: ±2%
	24V	+24V Power Supply Terminal	Output: 24V, 100mA, Accuracy: ±15%
	GND	Control Circuit Reference Ground	Shared reference ground for digital input, analog input, and power supply.

Jumper Terminal Description



Jumper Category	Function Description	Jumper Selection	
		Shorted between 1 and 2	Shorted between 2 and 3
J2	AI1 Analog Input Voltage/Current Selection	0-20mA	0-10V
J3	Multi-function Digital Input Sink/ Source Selection	Source input	Sink Input
J4	AO1 Analog Output Voltage/ Current Selection	0-20mA	0-10V
J5	AO2 Analog Output Voltage/ Current Selection	0-20mA	0-10V
J6	RS485 Terminal Resistor Selection	120Ω	—
J9	AI2 Analog Input Voltage/ Current Selection	0-20mA	0-10V

⚠ WARNINGA

- It is recommended to use wires with a cross-sectional area of 0.3–0.75 mm^2 for control circuit terminal connections.
- The wiring length should not exceed 30 meters.
- To avoid noise and interference, the control circuit terminal wiring must use shielded cables and must be routed separately from the main circuit and high-voltage circuits.
- For RS485 communication, it is recommended to use shielded twisted-pair cables.

③ . Terminal Screw Torque Requirements

The torque values for the inverter’s main circuit and control circuit terminals can be referenced in the table below:

Model Type	Main Circuit Terminal Torque Value (kgf • cm)	Control Circuit Terminal Torque Value (kgf • cm)
S100-2S00041N-A	0.8-1.0	0.5-0.6
S100-2S00071N-A		
S100-2S00151N-A		
S100-4T00071N-A		
S100-4T00151N-A		
S100-4T00221N-A	0.8-1.0	0.5-0.6
S100-4T00401N-B		
S100-2S00221N-C		
S100-2S00401N-C		
S100-4T00551N-C		
S100-4T00751N-C		

④ . System Wiring Diagram

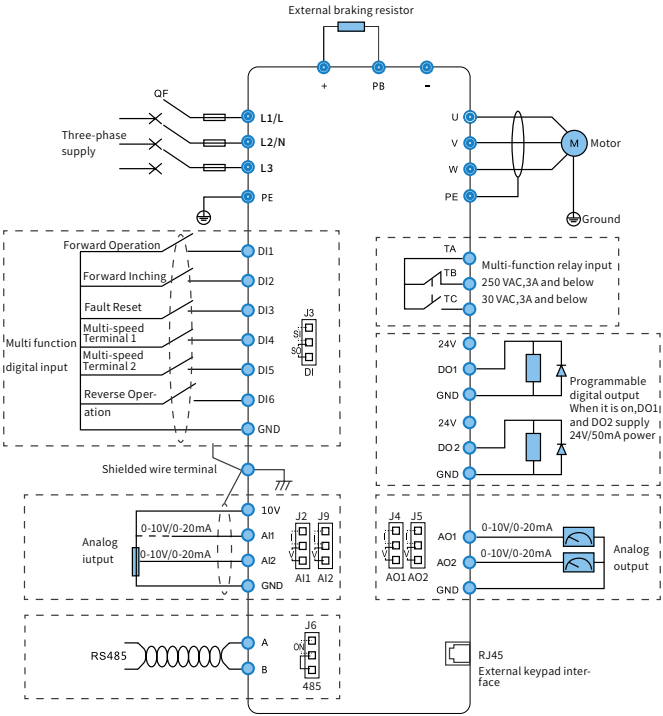


Figure 2-6 S100 Series Inverter System Wiring Diagram

3. Operation Keypad

This chapter provides a detailed introduction to the operation methods and display information of the S100 series inverter keypad. Please make sure to read this chapter carefully before operating the inverter.

3.1 Keyboard Introduction

The S100 keyboard adopts a detachable fixed keyboard design.

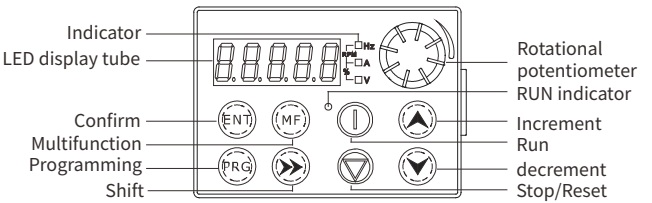


Figure 3-1 Keyboard Introduction

Keyboard Function Description

Project	Name	Function Description
	Single-row digital tub	Displays output frequency, current, parameter settings, and fault codes
	Parameter indicator light	Hz: When steadily lit, indicates frequency display (Unit: Hz) A: When steadily lit, indicates current display (Unit: A) V: When steadily lit, indicates voltage display (Unit: V) Hz/A: When both lit, indicates rotational speed display (Unit: RPM) A/V: When both lit, indicates percentage display (Unit: %)
	Rotational potentiometer	Used to set the set parameters of potentiometer
	Multifunction button	Multi-function button configurable as: Disabled / Jog / Forward-Reverse
	Programming button	Enter/Exit primary menu
	Confirmation button	Access parameter menu, confirm current modified value
	Shift button	Operation status monitoring data switch, parameter modification shift

	Run button	Keyboard Run Command Button(Light ON: Forward | OFF: Stop | Flashing: Reverse)
	Stop/Reset button	Stop/Reset Command Button
	Up button	Function code or numerical value increase
	Down button	Function code or numerical value decrease

3.2 Keyboard Operation Method

① . Function Parameter Query and Modification

S100 series universal open-loop vector inverter keypad adopts a three-level menu structure for parameter setting and status monitoring operations, namely function parameter group (primary menu), function code (secondary menu), and parameter setting value (tertiary menu). The function parameter query and modification process is shown in Figure 3-2.

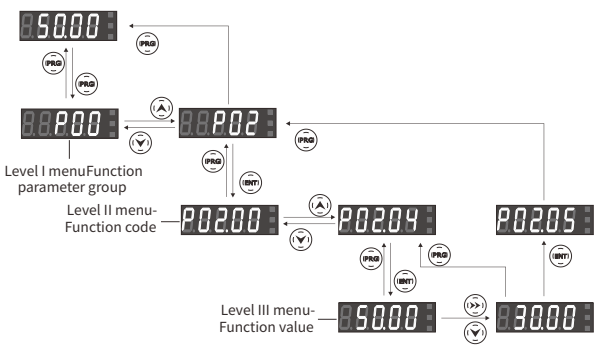


Figure 3-2 Parameter Query and Modification Process

Note:
During tertiary menu operation, press the "PRG" or "ENT" key to return to the secondary menu. The difference is:

Pressing "ENT" saves the current setting value and automatically advances to the next function code upon returning to the secondary menu.

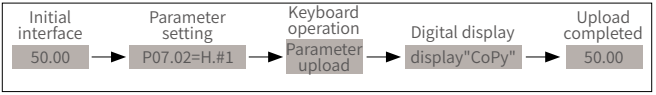
Pressing "PRG" discards unsaved changes and returns directly to the current function code in the secondary menu.

② . Parameter Upload and Download

(1) Parameter Upload

The operation keyboard can copy the inverter's internal parameters to the keyboard memory and store them permanently. Therefore, users can back up their typical parameter settings to the operation keyboard for emergency use. The backed-up parameters in the operation keyboard will not affect the inverter's operation.

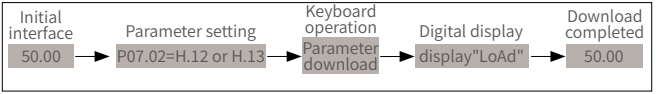
Set function parameter P07.02=H.#1, then press the " PRG " key on the keyboard. The keyboard will start reading the inverter's internal parameters, during which the LED display will show the code "CoPy". After the parameter upload is completed, the display mode will return to the initial interface "50.00".



(2) Parameter Download

The operation keyboard can copy backup parameters to the inverter's internal memory. Users can write their pre-configured parameter settings from the keyboard to the inverter in one operation, eliminating the need for individual parameter modifications.

With the inverter in stop mode, set function parameter P07.02 to H.12 or H.13 and press the " PRG " key on the keyboard. The inverter will begin downloading parameters from the keyboard to its control board memory, during which the LED display will show "LoAd". After the download is complete, the display will return to the default "50.00" interface.



4. Test Run

This chapter introduces the preparatory operations required for commissioning the S100 series inverter, the initial value settings for common parameter groups, and the method/procedure for motor parameter tuning during SVC open-loop vector operation.

4.1 Initial Setup of the Inverter

① . Control Mode Selection P00.00

The S100 series inverter offers two control modes: V/F control and open-loop vector control (SVC). The initial value of P00.00 is 0, corresponding to the V/F control mode.

② . Operation Command Source SelectionP00.01

The command sources for the S100 series inverter can be set in three ways: keypad control, terminal control, and communication control. The initial value P00.01=0, meaning the inverter’s start/stop operations are performed via the " " " " key on the keypad.

③ . Frequency Source Selection P00.02、P00.03

The S100 series inverter allows selection of the main frequency source or auxiliary frequency source via parameter P00.07, with each frequency source supporting 7 frequency setting methods. The initial values are P00.02=0 and P00.07=00, where the inverter’s frequency setting is given by the main frequency source set to "digital setting" and can be adjusted via the " " " " key on the keypad.

4.2 Simple Test Run

WARNINGA

It is strictly forbidden to connect input power cables to the inverter’s output terminals U, V, and W.

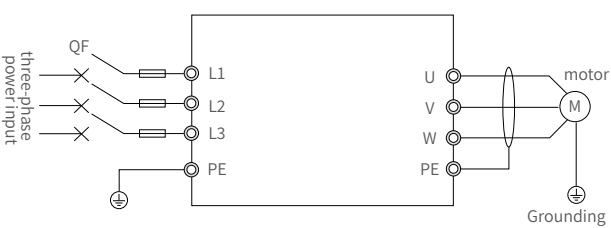


Figure 4-1 Wiring Diagram for Test Run

(1) Before connecting the input power supply to the inverter, confirm that the power supply voltage is within the rated input voltage range of the inverter.

(2) Wire according to the diagram shown in Figure 4-1.

(3) After confirming that the wiring is correct, close the power switch to turn on the power, and the inverter will display "50.00"

(4) Select the control mode as P00.00=0, V/F control mode.

(5) Select the command source as P00.01=0, keypad control.

(6) Select the frequency source as P00.02=0 (keypad digital setting), and set the preset frequency P00.08=0.00.

(7) Press the " " key to start the inverter; the inverter outputs 0 frequency, and the keypad displays "0.00".

(8) Press the " " key to increase the set frequency; the output frequency of the inverter starts to increase from "0.00", and the motor speed accelerates.

(9) Observe whether the motor operates normally. If there is any abnormality, stop the machine immediately, eliminate the cause, and then restart.

(10) Press the " " key to decrease the set frequency; the motor speed decreases.

(11) Press the " " key to stop the inverter and cut off the input power supply.

4.3 Open-Loop Vector Operation（SVC）

Taking a 5.5kW inverter driving a 5.5kW three-phase asynchronous motor as an example, the entire op eration process is introduced. The motor nameplate parameters are as follows:

Rated Power 5.5kW	Rated Voltage 380V	Rated Speed 1460r/min
Rated current 12A	Rated frequency 50.00Hz	

Keyboard numeric setting frequency and start-stop control

(1) Connect the wires as shown in Figure 4-1, and turn on the power switch after confirming that the wiring is correct;

(2) Set the following parameters in the order below:

P00.00=1	Open-loop vector control
P02.01=5.5	Motor rated power
P02.02=380	Motor rated voltage
P02.03=12	Motor rated current
P02.04=50	Motor rated frequency
P02.05=1460	Motor rated speed

(3) Set P00.25 = 1 and press the "" key. The frequency converter will automatically start the static tuning of motor parameters. At this time, the keyboard will display the code "TUNE", the motor will emit an obvious whistling sound, and the motor shaft will vibrate. When the keyboard display changes to "50.00", the static tuning is completed.
If the motor is completely disconnected from the load, the frequency converter can perform dynamic tuning. Set P00.25 = 2. After completing the static tuning,

the frequency converter will automatically accelerate the motor to 80% of the rated frequency, maintain this state for a period of time, and then decelerate to stop. This completes the full tuning process.
If it is difficult to disconnect the motor from the load but a full tuning is still required on-site, the frequency converter can perform a static full self-tuning for the asynchronous motor. Set P00.25 = 3 and then press the RUN key. The frequency converter will perform a complete static tuning.

(4) Set the preset frequency P00.08 and press the "" key to start the frequency converter. Observe whether the motor runs normally. If there is any abnormality, stop the operation immediately, cut off the power supply, identify the cause, and then restart.

(5) During operation, you can modify the set frequency via the """" keys on the keyboard to adjust the motor speed.

(6) Press the "" key to stop the operation and turn off the power.

5. List of functional parameters

The S100 series frequency converters classify parameters into 20 groups according to their attributes. Among them, P00-P25 are basic functional parameters, P22 is Fire Mode,and P30 is monitoring functional parameter, which makes parameter setting and viewing easier and more intuitive. In most application scenarios, users can complete the settings before starting and running according to the relevant parameter settings in the parameter groups.

The symbols in the function list are defined as follows:

" △ "	Indicates that the set value of this parameter can be modified whether the frequency converter is in a stopped or running state;
" ▲ "	Indicates that the set value of this parameter cannot be modified when the frequency converter is in a running state;
" ● "	Indicates that the value of this parameter is an actual detected and recorded value and cannot be modified;
" H. "	Indicates that the set value of this parameter is in hexadecimal.

5.1Functional Parameter List

Group P00 Basic Functions

Function Cod	Name	Setting Range	Factory Default	Modifiable
P00.00	Motor 1 control mode	0: V/F Control 1: Open-loop Vector Control	0	▲
P00.01	Command source selection	0: Keyboard Command Channel 1: Terminal Command Channel 2: Communication Command Channel	0	△
P00.02	Main frequency source X selection	0: Digital Setting (Preset Frequency P00.08, Modifiable via UP/DOWN, Not Power-off Memory) 1: Digital Setting (Preset Frequency P00.08, Modifiable via UP/DOWN, Power-off Memory) 2: AI1 3: AI2 4: Multi-segment Command 5: Simple PLC 6: PID 7: Communication Given 8: Keypad potentiometer set-point 9: DI6 pulse input setpoint	0	▲
P00.03	Auxiliary frequency source Y selection		0	▲
P00.04	Selection of auxiliary frequency source Y range during superposition	0: Relative to Maximum Frequency 1: Relative to Frequency Source X	0	△
P00.05	Auxiliary frequency offset during superposition	0.00Hz ~ Maximum Frequency P00.10	0.00Hz	△
P00.06	Auxiliary frequency source Y range during superposition	0% ～ 150%	100%	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P00.07	Frequency source superposition selection	Units Digit: Frequency Source Selection 0: Main Frequency Source X 1: Main-Auxiliary Operation Result (Operation Relationship Determined by Tens Digit) 2: Switch between Main Frequency Source X and Auxiliary Frequency Source Y 3: Switch between Main Frequency Source X and Main-Auxiliary Operation Result 4: Switch between Auxiliary Frequency Source Y and Main-Auxiliary Operation Result Tens Digit: Main-Auxiliary Operation Relationship of Frequency Sources 0: Main + Auxiliary 1: Main - Auxiliary 2: Maximum of Both 3: Minimum of Both 4: DI6 pulse input setpoint	00	△
P00.08	Preset frequency	0.00Hz ~ Maximum Frequency (P00.10)	50.00Hz	△
P00.09	Running direction	0: Keep Unchanged 1: Reverse	0	△
P00.10	Maximum frequency	10.00Hz ～ 320.00Hz	50.00Hz	▲
P00.11	Upper limit frequency source	0: Set by P00.12 1: AI1 2: AI2 3: Communication Given	0	▲
P00.12	Upper limit frequency	Lower Limit Frequency P00.14 ~ Maximum Frequency P00.10	50.00Hz	△
P00.13	Upper limit frequency offset	0.00Hz ~ Maximum Frequency (P00.10)	0.00Hz	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P00.14	Lower limit frequency	0.00Hz ~ Upper Limit Frequency (P00.12)	0.00Hz	△
P00.15	Carrier frequency	0.5KHz ~ 16.0KHz	Model Determination	△
P00.16	Carrier frequency adjustment with temperature	0：No 1：Yes	1	△
P00.17	Acceleration time 1	0.0s ～ 6500.0s	Model Determination	△
P00.18	Deceleration time 1	0.0s ～ 6500.0s	Model Determination	△
P00.19	High/low speed switching	1: High-speed Mode (0.0 ~ 3200.0HZ) 2: Low-speed Mode (0.00 ~ 320.00HZ)	2	▲
P00.20	Motor selection	0：Motor 1 1：Motor 2	0	▲
P00.21	Digital setting frequency stop memory selection	0：Do Not Remember 1：Remember	0	△
P00.22	Acceleration/deceleration time reference frequency	0: Maximum Frequency (P00.10) 1: Set Frequency	0	▲
P00.23	Frequency command UP/DOWN reference during operation	0: Operating Frequency 1: Set Frequency	0	▲
P00.24	Command source bundled frequency source selection	Units Digit: Keyboard Command Frequency Source Selection 0: No Binding 1: Digital Setting Frequency 2: AI1	H.000	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P00.24	Command source bundled frequency source selection	3: AI2 4: Multi-speed 5: Simple PLC 6: PID 7: Communication Given 8: Keypad potentiometer setpoint 9: DI6 pulse input setpoint Tens Digit: Terminal Command Frequency Source Selection (Same as Above) Hundreds Digit: Communication Command Frequency Source Selection (Same as Above)	H.000	△
P00.25	Motor parameter self-learning	0: No Operation 1: Asynchronous Motor Static Tuning (Learn Partial Motor Parameters) 2: Asynchronous Motor Dynamic Full Tuning (Learn All Motor Parameters) 3: Asynchronous Motor Static Full Tuning (Learn All Motor Parameters)	0	▲
P00.26	Restore factory parameter settings	0: No Operation 1: Restore Factory Parameters, Excluding Motor Parameters 2: Restore Factory Parameters, Including Motor Parameters	0	▲

Group P01 Start/Stop Control

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P01.00	Start mode	0: Direct start 1: Speed tracking restart 2: Pre-excitation start	0	△
P01.01	Start frequency	0.00Hz ～ 10.00Hz	0.00Hz	△
P01.02	Start frequency holding time	0.0s ～ 100.0s	0.0s	▲
P01.03	Start DC braking cur-rent / Pre-excitation current	0% ～ 100%	0%	▲
P01.04	Start DC braking time / Pre-excitation time	0.0s ～ 100.0s	0. 0s	▲
P01.05	Start protection selection	0: No protection 1: Protection	1	△
P01.07	Speed tracking speed	1 ～ 100	20	△
P01.08	Acceleration/deceler-ation mode	0: Linear acceleration/deceler-ation 1: S-curve acceleration/decel-eration A 2: S-curve acceleration/decel-eration B	0	▲
P01.09	S-curve start segment time ratio	0.0% ～ (100.0%-P01.10)	30.0%	▲
P01.10	S-curve end segment time ratio	0.0% ～ (100.0%-P01.09)	30.0%	▲
P01.11	Stop mode	0: Decelerated stop 1: Free stop	0	△
P01.12	Stop DC braking start frequency	0.00Hz ～ Maximum frequency (P00.10)	0.00Hz	△
P01.13	Stop DC braking waiting time	0.0s ～ 100.0s	0.0s	△
P01.14	Stop DC braking current	0% ～ 100%	0%	△
P01.15	Stop DC braking time	0.0s ～ 100.0s	0.0s	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P01.16	Operation mode when given frequency is lower than start frequency	0: Not start 1: Zero-frequency start 2: Given frequency start 3: Start frequency start	0	▲
P01.22	Speed tracking mode	0: Start from stop frequency 1: Start from power frequency 2: Start from maximum frequency	0	▲
P01.23	Speed tracking closed-loop current KP	0~1000	Model Determi-nation	▲
P01.24	Speed tracking closed-loop current KI	0~1000	Model Determi-nation	▲
P01.25	Magnitude of tracking current	30%~200%	Model Determi-nation	▲
P01.26	Lower limit of speed tracking closed-loop current	10~100	30	▲
P01.27	Speed tracking voltage rise time	0.5~3.0	1.1	▲
P01.28	Demagnetization time (effective in SVC mode)	0.00~5.00	1.00	▲
P01.29	Stop UP/DOWN Out-put Selection	0: Hold 1: Clear	0	△

Group P02 Motor 1 Parameters

Function Cod	Name	Setting Range	Factory Default	Modifiable
P02.00	Motor type selection	0: General asynchronous motor 1: Inverter asynchronous motor	0	▲
P02.01	Motor rated power	0.1KW ～ 22.0KW	Model Determination	▲
P02.02	Motor rated voltage	1V ～ 2000V	Model Determination	▲
P02.03	Motor rated current	0.01A ～ 45.00A	Model Determination	▲
P02.04	Motor rated frequency	0.01Hz ～ Maximum frequency upper limit value	Model Determination	▲
P02.05	Motor rated speed	1rpm ～ 65000rpm	Model Determination	▲
P02.06	Asynchronous motor stator resistance	0.001Ω ～ 65.000Ω	Tuning parameters	▲
P02.07	Asynchronous motor rotor resistance	0.001Ω ～ 65.000Ω	Tuning parameters	▲
P02.08	Asynchronous motor leakage inductive reactance	0.01mH ～ 650.00mH	Tuning parameters	▲
P02.09	Asynchronous motor mutual inductive reactance	0.1mH ～ 6500.0mH	Tuning parameters	▲
P02.10	Asynchronous motor no-load current	0.01A ～ P02.03	Tuning parameters	▲

Group P03 Motor 1 Vector Control Parameters

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P03.00	Speed loop proportional gain 1	1 ～ 100	30	△
P03.01	Speed loop integral time 1	0.01s ～ 10.00s	1.00s	△
P03.02	Switching frequency 1	0.00 ～ P03.05	5.00Hz	△
P03.03	Speed loop proportional gain 2	1 ～ 100	30	△
P03.04	Speed loop integral time 2	0.01s ～ 10.00s	1.00s	△
P03.05	Switching frequency 2	P03.02~Maximum frequency (P00.10)	10.00Hz	△
P03.06	Vector control slip gain	50% ～ 200%	100%	△
P03.07	SVC2 speed loop filter time constant	0.000s ～ 0.100s	0.050s	△
P03.09	Speed control torque upper limit source	0: Set by function code P03.10 1: AI1 2: AI2 3: Communication given 4: MIN(AI1,AI2) 5: MAX(AI1,AI2) 6: DI6 pulse input setpoint 7: Keypad potentiometer set-point (The full scale of options 1–7 corresponds to P03.10)	0	▲
P03.10	Speed control torque upper limit digital setting	0.0% ～ 200.0%	150.0%	△
P03.11	Excitation regulation proportional gain	0 ～ 60000	2000	△
P03.12	Excitation regulation integral gain	0 ～ 60000	1300	△
P03.13	Torque regulation proportional gain	0 ～ 60000	2000	△
P03.14	Torque regulation integral gain	0 ～ 60000	1300	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P03.16	Overmodulation coefficient for voltage	100~110	105	▲
P03.17	Maximum torque coefficient in weak magnetic area	50~200	100	△
P03.15	Speed loop integral attribute	0: Invalid 1: Valid	0	△
P03.19	Speed/torque control mode selection	0: Speed control 1: Torque control	0	▲
P03.20	Torque setting source selection in torque control mode	0: Digital setting (P03.21) 1: AI1 2: AI2 3: Communication given 4: MIN(AI1,AI2) 5: MAX(AI1,AI2) 6: DI6 pulse input setpoint 7: Keypad potentiometer setpoint (The full scale of options 1–7 corresponds to the digital setting of P03.21)	0	▲
P03.21	Torque digital setting in torque control mode	-200.0% ～ 200.0%	150.0%	△
P03.22	Maximum frequency for forward torque control	0.00Hz ～ Maximum frequency (P00.10)	50.00Hz	△
P03.23	Maximum frequency for reverse torque control	0.00Hz ～ Maximum frequency (P00.10)	50.00Hz	△
P03.24	Torque control acceleration time	0.00s ～ 650.00s	0.00s	△
P03.25	Torque control deceleration time	0.00s ～ 650.00s	0.00s	△
P03.26	Vector display frequency resolution amplitude	0.00Hz ～ 10.00Hz	0.80Hz	△
P03.27	Vector operation frequency selection	0: Actual frequency 1: Ramp frequency	1	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P03.28	Torque limit source for speed control (braking)	0: Set by function code P03.21 1: AI1 2: AI2 3: Communication given 4: MIN(AI1,AI2) 5: MAX(AI1,AI2) 6: DI6 pulse input setpoint 7: Keypad potentiometer set-point (The full scale of options 1–7 corresponds to P03.10)	0	△
P03.29	Digital setting of torque upper limit for speed control (braking)	0.0% ～ 200.0%	150.0%	△

Group P04 V/F Control Parameters

Function Cod	Name	Setting Range	Factory Default	Modifiable
P04.00	V/F curve setting	0: Linear V/F 1: Multi-point V/F 2: Square V/F 3: 1.2 power V/F 4: 1.4 power V/F 5: 1.6 power V/F 6: 1.8 power V/F 7: V/F full separation mode 8: V/F semi-separation mode	0	▲
P04.01	Torque boost	0.0%: (Automatic torque boost) 0.1% ~ 30.0%	Model Determination	△
P04.02	Torque boost cut-off frequency	0.00Hz ~ Maximum frequency (P00.10)	25.00Hz	▲
P04.03	Multi-point V/F frequency point 1	0.00Hz ~ P04.05	0.00Hz	▲
P04.04	Multi-point V/F voltage point 1	0.0% ~ 100.0%	0.0%	▲
P04.05	Multi-point V/F frequency point 2	P04.03 ~ P04.07	0.00Hz	▲
P04.06	Multi-point V/F voltage point 2	0.0% ~ 100.0%	0.0%	▲
P04.07	Multi-point V/F frequency point 3	P04.05 ~ Motor rated frequency(P02.04)	0.00Hz	▲
P04.08	Multi-point V/F voltage point 3	0.0% ~ 100.0%	0.0%	▲
P04.09	V/F slip compensation gain	0.0% ~ 200.0%	0.0%	△
P04.10	V/F over-excitation gain	0 ~ 200	64	△
P04.11	V/F oscillation suppression gain	0 ~ 100	Model Determination	△
P04.12	V/F separated voltage source	0: Digital setting (P04.13) 1: AI1 2: AI2	0	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P04.12	V/F separated voltage source	3: Multi-step command 4: Simple PLC 5: PID 6: Communication given 7: DI6 pulse input setpoint 8: Keypad potentiometer set-point Note: 100.0% corresponds to the motor rated voltage	0	△
P04.13	V/F separated voltage source digital setting	0V ～ Motor rated voltage	0V	△
P04.14	V/F separated voltage rise time	0.0s ～ 1000.0s Note: Indicates the time for the voltage to change from 0V to the motor's rated voltage.	0.0s	△
P04.15	V/F separated voltage fall time	0.0s ～ 1000.0s Note: Indicates the time for the motor's rated voltage to change to 0V.	0.0s	△
P04.16	Oscillation suppres-sion mode selection	0 ~ 4	3	▲
P04.17	VF separated stop mode selection	0: Frequency/voltage inde-pendently ramp down to zero 1: Voltage ramps to zero before frequency ramps down	11	▲
P04.18	VF overcurrent stall action current	50%~200%	130%	▲
P04.19	VF overcurrent stall enable	0: Not enabled 1: Enabled	1	▲
P04.20	VF overcurrent stall suppression gain	0~100	20	△
P04.21	VF double-speed overcurrent stall current compensa-tion coefficient	50%~200%	50%	▲
P04.22	VF overvoltage stall action voltage	200.0~2000.0V	760.0V	▲

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P04.23	VF overvoltage stall enable	0~1	1	▲
P04.24	VF overvoltage stall suppression frequency gain	0~100	30	△
P04.25	VF overvoltage stall suppression voltage gain	0~100	30	△
P04.26	Max frequency rise limit during over-voltage stall	0~50Hz	5Hz	▲
P04.27	Slip compensation time constant	0.1~10.0s	0.5s	▲
P04.33	Online torque com-pensation gain	80~150	100	▲

Group P05 Input Terminal Functions

Function Cod	Name	Setting Range	Factory Default	Modifiable
P05.00	DI1 Terminal Function Selection	0: No function 1: Forward operation FWD or run command 2: Reverse operation REV or forward/reverse direction (Note: When set to 1 or 2, it must be used in conjunction with P05.08. Refer to the function code parameter description for details.) 3: Three-wire operation control 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Free stop 9: Fault reset (RESET) 10: Operation pause 11: External fault normally open input 12: Multi-step command terminal 1 13: Multi-step command terminal 2 14: Multi-step command terminal 3 15: Multi-step command terminal 4 16: Acceleration/deceleration time selection terminal 1 17: Acceleration/deceleration time selection terminal 2 18: Frequency source switching 19: UP/DOWN setting clear (terminal, keyboard) 20: Control command switching terminal 1 21: Acceleration/deceleration prohibition 22: PID pause 23: PLC status reset 24: Swing frequency pause 25: Torque control prohibition 26: Immediate DC braking 27: External fault normally closed input 28: Frequency modification enable 29: PID action direction inversion 30: External stop terminal 1	1	▲
P05.01	DI2 Terminal Function Selection		4	▲
P05.02	DI3 Terminal Function Selection		9	▲
P05.03	DI4 Terminal Function Selection		12	▲

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P05.04	DI5 Terminal Function Selection	31: Control command switching terminal 2 32: PID integral pause 33: Frequency source X and preset frequency switching 34: Frequency source Y and preset frequency switching 35: Motor selection terminal 36: PID parameter switching 37: User-defined fault 1 38: User-defined fault 2 39: Speed control / torque control switching 40: Emergency stop 41: External stop terminal 2 42: Deceleration DC braking 43: Current run time clear 44: Two-wire / three-wire switching 45: Counter reset 46: Length reset 47: Reverse Rotation Prohibited 48: Fire Mode	13	▲
P05.05	DI6 terminal function selection		2	▲
P05.07	DI Filter Time	0.000s ～ 1.000s	0.020s	▲
P05.08	Terminal Command Mode	0: Two-wire type 1 1: Two-wire type 2 2: Three-wire type 1 3: Three-wire type 2	0	▲
P05.09	Terminal UP/ DOWN Change Rate	Low-speed mode 0.001Hz/s ～ 65.535Hz/s High-speed mode 0.01Hz/s ～ 655.35Hz/s	1.000Hz/s	△
P05.10	DI1 Delay Time	0.0s ～ 3600.0s	0.0s	▲
P05.11	DI2 Delay Time	0.0s ～ 3600.0s	0.0s	▲
P05.12	DI3 Delay Time	0.0s ～ 3600.0s	0.0s	▲
P05.13	DI Terminal Effective Mode Selection 1	0: Active high 1: Active low Units digit: DI1 Tens digit: DI2 Hundreds digit: DI3 Thousands digit: DI4 Ten-thousands digit: DI5	00000	▲

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P05.14	DI Terminal Effective Mode Selection 2	0: Active high 1: Active low Units digit: DI6	0	▲
P05.15	AI Curve Selection	Units digit: AI1 1curve selection 1: Curve 1 (2 points, see P05.16 ～ P05.19) 2: Curve 2 (2 points, see P05.20 ～ P05.23) 3: Curve 3 (2 points, see P05.24 ～ P05.27) 4: Curve 4 (4 points, see P05.28 ～ P05.35) 5: Curve 5 (4 points, see P05.36 ～ P05.43) Thousands digit: AI2 1curve selection (same as above)	H.21	△
P05.16	AI Curve 1 Minimum Input	0.00V ～ P05.18	0.00V	△
P05.17	AI Curve 1 Minimum Input Corresponding Setting	-100.0% ～ +100.0%	0.0%	△
P05.18	AI Curve 1 Maximum Input	P05.16 ～ +10.00V	10.00V	△
P05.19	AI Curve 1 Maximum Input Corresponding Setting	-100.0% ～ +100.0%	100.0%	△
P05.20	AI Curve 2 Minimum Input	0.00V ～ P05.22	0.00V	△
P05.21	AI Curve 2 Minimum Input Corresponding Setting	-100.0% ～ +100.0%	0.0%	△
P05.22	AI Curve 2 Maximum Input	P05.20 ～ +10.00V	10.00V	△
P05.23	AI Curve 2 Maximum Input Corresponding Setting	-100.0% ～ +100.0%	100.0%	△
P05.24	AI Curve 3 Minimum Input	0.00V ～ P05.26	0.00V	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P05.25	AI Curve 3 Minimum Input Corresponding Setting	-100.0% ～ +100.0%	0.0%	△
P05.26	AI Curve 3 Maximum Input	P05.24 ～ +10.00V	10.00V	△
P05.27	AI Curve 3 Maximum Input Corresponding Setting	-100.0% ～ +100.0%	100.0%	△
P05.28	AI Curve 4 Minimum Input	0.00V ～ P05.30	0.00V	△
P05.29	AI Curve 4 Minimum Input Corresponding Setting	-100.0% ～ +100.0%	0.0%	△
P05.30	AI Curve 4 Inflection Point 1 Input	P05.28 ～ P05.32	3.00V	△
P05.31	AI Curve 4 Inflection Point 1 Input Corresponding Setting	-100.0% ～ +100.0%	30.0%	△
P05.32	AI Curve 4 Inflection Point 2 Input	P05.30 ～ P05.34	6.00V	△
P05.33	AI Curve 4 Inflection Point 2 Input Corresponding Setting	-100.0% ～ +100.0%	60.0%	△
P05.34	AI Curve 4 Maximum Input	P05.32 ～ +10.00V	10.00V	△
P05.35	AI Curve 4 Maximum Input Corresponding Setting	-100.0% ～ +100.0%	100.0%	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P05.36	AI Curve 5 Minimum Input	0.00V ～ P05.38	0.00V	△
P05.37	AI Curve 5 Minimum Input Corresponding Setting	-100.0% ～ +100.0%	0.0%	△
P05.38	AI Curve 5 Inflection Point 1 Input	P05.36 ～ P05.40	3.00V	△
P05.39	AI Curve 5 Inflection Point 1 Input Corresponding Setting	-100.0% ～ +100.0%	30.0%	△
P05.40	AI Curve 5 Inflection Point 2 Input	P05.38 ～ P05.42	6.00V	△
P05.41	AI Curve 5 Inflection Point 2 Input Corresponding Setting	-100.0% ～ +100.0%	60.0%	△
P05.42	AI Curve 5 Maximum Input	P05.40 ～ +10.00V	10.00V	△
P05.43	AI Curve 5 Maximum Input Corresponding Setting	-100.0% ～ +100.0%	100.0%	△
P05.44	AI1 Filter Time	0.00s ～ 10.00s	0.10s	△
P05.45	AI2 Filter Time	0.00s ～ 10.00s	0.10s	△
P05.46	AI Below Minimum Input Setting Selection	Units place: AI1 Below Minimum Input Setting Selection 0: Corresponds to the minimum input setting 1: 0.0% Tens place: AI2 Below Minimum Input Setting Selection (same as above)	H.0	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P05.47	AI1 Setting Jump Point	-100.0% ～ 100.0%	0.0%	△
P05.48	AI2 Setting Jump Amplitude	0.0% ～ 100.0%	0.5%	△
P05.49	AI2 Setting Jump Point	-100.0% ～ 100.0%	0.0%	△
P05.50	AI2 Setting Jump Amplitude	0.0% ～ 100.0%	0.5%	△
P05.51	AI Input Voltage Protection Value Lower Limit	0.00V ～ P05.52	3.10V	△
P05.52	AI Input Voltage Protection Value Upper Limit	P05.51 ～ 10.00V	6.80V	△
P05.53	DI6 function selection	0: DI6 as digital (switch) input 1: DI6 as pulse input 2: DI6 as pulse count input 3: DI6 as length count input	0	△
P05.54	DI6 minimum pulse input	0.00kHz ～ P05.56	0.00kHz	△
P05.55	Setpoint corre-sponding to DI6 minimum pulse	-100.0% ～ 100.0%	0.0%	△
P05.56	DI6 maximum pulse input	P05.54 ～ 100.00kHz	50.00kHz	△
P05.57	Setpoint corre-sponding to DI6 maximum pulse	-100.0% ～ 100.0%	100.0%	△
P05.58	DI6 pulse input filter time	0.00s ～ 10.00s	0.10s	△
P05.60	Selection of AI input modes	LED units place: AI1 selecte LED tens place: AI1 selecte	00	△

Group P06 Output Terminal Functions

Function Cod	Name	Setting Range	Factory Default	Modifiable
P06.00	Control Board Relay Function Selection (TA-TB-TC) RELAY	0: No output 1: Inverter running 2: Fault output (fault causing shutdown) 3: Frequency level detection FDT1 output 4: Frequency reached 5: Zero-speed running (no output when stopped) 6: Motor overload pre-alarm 7: Inverter overload pre-alarm 8: PLC cycle completed 9: Cumulative running time reached 10: Frequency limiting active 11: Torque limiting active 12: Ready to run 13: AI1>AI2 14: Upper limit frequency reached 15: Lower limit frequency reached (related to operation) 16: Undervoltage status output 17: Communication setting 18: Zero-speed running 2 (outputs even when stopped) 19: Cumulative power-on time reached 20: Frequency level detection FDT2 output 21: Frequency 1 reached output 22: Frequency 2 reached output 23: Current 1 reached output 24: Current 2 reached output 25: Timing reached output 26: AI input overlimit 27: Underload active 28: Reverse running 29: Zero current state 30: Module temperature reached 31: Output current overlimit 32: Lower limit frequency reached (outputs even when stopped) 33: Alarm output (continues running)	2	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P06.00	Control Board Relay Function Selection (TA-TB-TC) RELAY	34: Current running time reached 35: Fault output (fault causing shutdown, no output for undervoltage) 36: Set count value reached 37: Specified count value reached 38: Length reached 39: Brake enable flag 40:Fire Mode 41: Add-subtract pump control output 1 42: Add-subtract pump control output 2 43: Add-subtract pump control output 3	2	△
P06.01	DO1 output function selection		1	△
P06.02	DO2 output function selection		0	△
P06.03	RELAY Output Delay Time	0.0s ～ 3600.0s	0.0s	△
P06.04	DO1 Output Delay Time	0.0s ～ 3600.0s	0.0s	△
P06.05	DO2 Output Delay Time	0.0s ～ 3600.0s	0.0s	△
P06.06	DO Output Terminal Effective Status Selection	0: Positive logic 1: Negative logic Units digit: RELAY Tens digit: DO1 Hundreds digit: DO2	000	△
P06.07	AO1 Output Function Selection	0: Operating frequency 1: Set frequency 2: Output current 3: Output torque (torque absolute value) 4: Output power 5: Output voltage 6：AI1 7：AI2 8: Communication setting 9: Motor speed 10: Output current (100.0% corresponds to 1000.0A) 11: Bus voltage (100.0% corresponds to 1000.0V); 12: Output torque (torque actual value) 14: Length value 15: Count value	0	△
P06.08	AO2 Output Function Selection		1	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P06.09	AO1 Zero Offset Coefficient	-100.0% ～ +100.0%	0.0%	△
P06.10	AO1 Gain	-10.00 ～ +10.00	1.00	△
P06.11	AO2 Zero Offset Coefficient	-100.0% ～ +100.0%	0.0%	△
P06.12	AO2 Gain	-10.00 ～ +10.00	1.00	△
P06.13	DO1Output Mode Selection	0: Pulse Output 1: Switch Output	1	△
P06.14	DO1 pulse output function selection	0: Operating frequency 1: Set frequency 2: Output current 3: Output torque (torque absolute value) 4: Output power 5: Output voltage 6：AI1 7：AI2 8: Communication setting 9: Motor speed 10: Output current (100.0% corresponds to 1000.0A) 11: Bus voltage (100.0% corresponds to 1000.0V); 12: Output torque (torque actual value) 13:DI6 Pulse Input Frequency (100.0% corresponds to 100.00kHz) 14: Length value 15: Count value	0	△
P06.15	DO1 Pulse Out-put Maximum Frequency	0.01kHz ～ 100.00kHz	50.00kHz	△
P06.16	AO Output Mode Selection	LED units digit: AO1 selection LED tens digit: AO2 selection0：0V ～ 10V 1：10V ～ 0V 2：2V ～ 10V 3：10V ～ 2V	00	△

Group P07 Keyboard Display and Function Code Management

Function Cod	Name	Setting Range	Factory Default	Modifiable
P07.00	MF Key Function Selection	0: MF inactive 1: Switch between operation panel command channel and remote command channel (terminal command channel or communication command channel) 2: Forward/reverse switching 3: Forward jog 4: Reverse jog 5: Menu mode switching	3	▲
P07.01	Stop Key Function	0: Stop key function is only effective under keyboard operation mode 1: Stop key function is effective under any operation mode	1	△
P07.02	Keyboard Parameter Copy	nits digit: Upload/download operation 0: No operation 1: Parameter upload 2: Parameter download (excluding motor parameters) 3: Parameter download (including motor parameters) Tens digit: Local download permission 0: Parameter download prohibited 1: Parameter download allowed	H.00	▲

Function Cod	Name	Setting Range	Factory Default	Modifiable
P07.03	LED Running Display Parameter 1	0000 ～ FFFF Bit00: Operating frequency (Hz) Bit01: Set frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input status Bit08: DO output status Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: Load speed display Bit12: PID setting Bit13: PID feedback Bit14: PLC phase Bit15: Feedback speed (Hz)	H.001F	△
P07.04	LED Running Display Parameter 2	0000 ～ 1FFF Bit00: Remaining running time Bit01: AI1 voltage before calibration (V) Bit02: AI2 voltage before calibration (V) Bit03: Linear speed Bit04: Current power-on time (Min) Bit05: Current running time (Min) Bit06: Communication set value Bit07: Main frequency X display (Hz) Bit08: Auxiliary frequency Y display (Hz) Bit09: DI6 Pulse Input Frequency(KHz) Bit10: Count value Bit11: Length value Bit12: Motor speed Bit13: Set pressure (Bar) Bit14: Feedback pressure(Bar)	H.0000	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P07.05	LED Stop Display Parameter	0000 ～ 1FFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: PLC phase Bit07: Load speed display Bit08: PID setting Bit09: DI6 Pulse Input Frequency(KHz) Bit10: Count value Bit11: Length value Bit12: Motor speed Bit13: Set pressure (Bar) Bit14: Feedback pressure(Bar)	H.0013	△
P07.06	Custom Parameter Group Display Selection	Units digit: User-defined parameter group display selection 0: Not displayed 1: Displayed Tens digit: User-modified parameter group display selection 0: Not displayed 1: Displayed	00	△
P07.07	Function Code Modification Attribute	0: Modifiable 1: Non-modifiable	0	△
P07.08	Radiator Temperature	-25°C～ 110°C	-	●
P07.09	Software Version Number	0 ～ 655.35	-	●
P07.10	Software Function Code Version Number	0 ～ 6553.5	-	●
P07.11	User Password	0 ～ 65535	0	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P07.13	Lower Bit of Software Material Code Serial Number	0 ～ 9999	-	●
P07.14	Higher Bit of Software Material Code Serial Number	0 ～ 9999	-	●
P07.16	Keyboard Display Mode	0: Single display 1: Dual display	0	△
P07.17	Keyboard Display Filter Time	0 ～ 1000	0	△

Group P08 Auxiliary Functions

Function Cod	Name	Setting Range	Factory Default	Modifiable
P08.01	Jog operation frequency	0.00Hz ～ Maximum frequency (P00.10)	2.00Hz	△
P08.02	Jog acceleration time	0.0s ～ 6500.0s	20.0s	△
P08.03	Jog deceleration time	0.0s ～ 6500.0s	20.0s	△
P08.04	Terminal jog priority	0: Invalid 1: Valid	0	△
P08.05	Acceleration time 2	0.0s ～ 6500.0s	Model Confirmation	△
P08.06	Deceleration time 2	0.0s ～ 6500.0s	Model Confirmation	△
P08.07	Acceleration time 3	0.0s ～ 6500.0s	Model Confirmation	△
P08.08	Deceleration time 3	0.0s ～ 6500.0s	Model Confirmation	△
P08.09	Acceleration time 4	0.0s ～ 6500.0s	Model Confirmation	△
P08.10	Deceleration time 4	0.0s ～ 6500.0s	Model Confirmation	△
P08.11	Switching frequency point between Acceleration time 1 and Acceleration time 2	0.00Hz ～ Maximum frequency（P00.10）	0.00Hz	△
P08.12	Switching frequency point between Deceleration time 1 and Deceleration time 2	0.00Hz ～ Maximum frequency（P00.10）	0.00Hz	△
P08.13	Skip frequency 1	0.00Hz ～ Maximum frequency（P00.10）	0.00Hz	△
P08.14	Skip frequency 2	0.00Hz ～ Maximum frequency（P00.10）	0.00Hz	△
P08.15	Skip frequency amplitude	0.00Hz ～ Maximum frequency（P00.10）	0.00Hz	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P08.16	Validity of skip frequency during acceleration/deceleration	0: Invalid 1: Valid	0	△
P08.17	Forward/reverse dead time	0.0s ～ 3000.0s	0.0s	△
P08.18	Reverse rotation allowed	0: Allowed 1: Forbidden	0	△
P08.19	Operation mode when set frequency is lower than lower limit frequency	0: Operate at lower limit frequency 1: Stop 2: Zero-speed operation	0	△
P08.20	Droop control	0.00Hz ～ 10.00Hz	0.00Hz	△
P08.21	Frequency detection value (FDT1 level)	0.00Hz ～ Maximum frequency（P00.10）	50.00Hz	△
P08.22	Frequency detection hysteresis value (FDT1 level)	0.0% ～ 100.0%	5.0%	△
P08.23	Frequency detection value (FDT2 level)	0.00Hz ～ Maximum frequency（P00.10）	50.00Hz	△
P08.24	Frequency detection hysteresis value (FDT2 level)	0.0% ～ 100.0%	5.0%	△
P08.25	Frequency arrival detection width	0.0% ～ 100.0%	0.0%	△
P08.26	Frequency arrival detection value 1	0.00Hz ～ Maximum frequency（P00.10）	50.00Hz	△
P08.27	Frequency arrival detection 1 amplitude	0.0% ～ 100.0%	0.0%	△
P08.28	Frequency arrival detection value 2	0.00Hz ～ Maximum frequency（P00.10）	50.00Hz	△
P08.29	Frequency arrival detection 2 amplitude	0.0% ～ 100.0%	0.0%	△
P08.30	Zero current detection level	0.0% ～ 300.0% 100.0% corresponds to the motor rated current ratio	5.0%	△
P08.31	Zero current detection delay time	0.01s ～ 600.00s	0.10s	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P08.32	Output current overlimit value	0.0% (No detection) 0.1% ～ 300.0%（Rated current of motor)	200.0%	△
P08.33	Output current overlimit detection delay time	0.00s ～ 600.00s	0.10s	△
P08.34	Current arrival detection value 1	0.0% ～ 300.0% (Rated current of motor)	100.0%	△
P08.35	Current arrival detection 1 amplitude	0.0% ～ 300.0% (Rated current of motor)	0.0%	△
P08.36	Current arrival detection value 2	0.0% ～ 300.0% (Rated current of motor)	100.0%	△
P08.37	Current arrival detection 2 amplitude	0.0% ～ 300.0% (Rated current of motor)	0.0%	△
P08.38	Timing function selection	0: Invalid 1: Valid	0	▲
P08.39	Timed operation time selec-tion	0: Set by P08.40 1：AI1 2：AI2 he analog input range corresponds to P08.40	0	▲
P08.40	Timed operation time	0.0Min ～ 6500.0Min	0.0Min	▲
P08.41	Cumulative power-on time	0h ～ 65535 h	-	●
P08.42	Set power-on arrival time	0h ～ 65000h	0h	△
P08.43	Current operation arrival time setting	0.0Min ～ 6500.0Min	0.0Min	▲
P08.44	Cumulative operation time	0h ～ 65535h	-	●
P08.45	Set operation arrival time	0h ～ 65000h	0h	△
P08.46	Module temperature arrival	0°C～ 100°C	75°C	△
P08.47	Cooling fan control	0: Fan operates during run-time or when temperature exceeds 42°C 1: Fan runs continuously 2: Fan operates during runtime	2	▲
P08.49	Load speed display coeffi-cient	0.001 ～ 65.000	1.000	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P08.50	Load speed display decimal places	0: 0 decimal places 1: 1 decimal place	0	△
P08.51	Emergency stop deceleration time	0.0s ～ 6500.0s	10s	△
P08.52	AI 10V compensation start temperature	0 ～ 160°C	55°C	△
P08.53	AI 10V compensation start voltage	0.000 ～ 10.000V	9.880V	△
P08.55	Vector and V/F mode 0Hz voltage output selection	0: No voltage output 1: Voltage output	0	△
P08.56	Vector and V/F mode 0Hz voltage output frequency threshold	0.00Hz ～ 10.00Hz	0.10Hz	△
P08.57	UP/DOWN integral rate	0.0 ～ 100.0s	4.0s	△
P08.58	Output power factor	0.0 ～ 200.0	100.0	△

Group P09 Protection and Fault Logs

Function Cod	Name	Setting Range	Factory Default	Modifiable
P09.00	Motor Overload Protection Selection	0: Disabled 1: Enabled	1	△
P09.01	Motor Overload Protection Gain	0.20 ~ 10.00	1.00	△
P09.02	Motor Overload Warning Coefficient	50% ~ 100%	80%	△
P09.03	Overvoltage Stall Prevention Gain	0 ~ 100	30	△
P09.04	Overvoltage Stall Protection Voltage	380V model: 630.0 ~ 795.0V	760V	△
		220V model: 350.0V ~ 390.0V	380V	
P09.05	Overcurrent Stall Prevention Gain	0 ~ 100	20	△
P09.06	Overcurrent Stall Protection Current	50% ~ 200%	130%	△
P09.07	Undervoltage Threshold Setting	200.0V ~ 1200.0V	380: 350.0V	△
			220: 200.0V	
P09.08	Overvoltage Threshold Setting	200.0V ~ 1200.0V	380: 810.0V	▲
			220: 400.0V	
P09.09	Fast Current Limiting Enable	0: Not enabled 1: Enabled	1	△
P09.10	Power-on Ground Short Circuit Protection Selection	0: Invalid 1: Valid	1	△
P09.11	Input Phase Loss Protection Selection	0: Invalid 1: Valid	1	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P09.12	Output Phase Loss Protection Selection	0: Invalid 1: Valid	1	△
P09.13	Low Temperature Fault Protection Selection	0: Invalid 1: Valid	1	△
P09.15	Dynamic Braking Selection	Units digit: Dynamic braking selection 0: Invalid 1: Valid Tens digit: Standby dynamic braking selection 0: Invalid 1: Valid	1	▲
P09.16	Dynamic Braking Voltage Threshold	380V model: 630.0 ～ 795.0V	680V	▲
		220V model: 350.0V ～ 390.0V	360V	
P09.17	Dynamic Braking Duty Cycle	0% ～ 100%	100%	▲
P09.18	Instantaneous Power Failure Action Selection	0: Invalid 1: Deceleration 2: Decelerate to stop	0	△
P09.19	Voltage for Judging Power Failure Pause	80.0% ～ 100.0%(Standard bus voltage)	90.0%	△
P09.20	Voltage Recovery Judgment Time for Instantaneous Power Failure	0.00s ～ 100.00s	0.50s	△
P09.21	Action Judgment Voltage for Instantaneous Power Failure	60.0% ～ 100.0%(Standard bus voltage)	80.0%	△
P09.22	No-load Protection Selection	0: Invalid 1: Valid	0	△
P09.23	No-load Detection Level	0.0 ～ 100.0%	10.0%	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P09.24	No-load Detection Time	0.0 ～ 60.0s	1.0s	△
P09.25	Automatic Fault Reset Times	0 ～ 20	0	△
P09.26	Automatic Fault Reset Interval	0.1s ～ 100.0s	1.0s	△
P09.27	Fault Relay Action Selection During Automatic Fault Reset	0: No action 1: Action	0	△
P09.28	Input Phase Loss Filter Coefficient	1 ～ 50000	50	△
P09.29	Input Phase Loss Voltage Threshold	50.0 ～ 200.0V	80.0V	▲
P09.30	Soft Start Fault Detection Count	0~2000	0	△
P09.33	Fault Protection Action Selection 1	Units place: Motor overload (Err11) 0: Free stop 1: Stop according to stop mode 2: Continue running Tens place: Input phase loss (Err12) (Same as units place) Hundreds place: Output phase loss (Err13) (Same as units place) Thousands place: External fault (Err15) (Same as units place) Ten-thousands place: Communication abnormality (Err16) (Same as units place)	00000	△
P09.34	Fault Protection Action Selection 2	Units digit: Reserved Tens digit: Function code read/write abnormality (Err21) 0: Free stop 1: Stop according to stop mode Hundreds place: Excessive speed deviation (Err42) 0: Free stop 1: Stop according to stop mode	00000	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P09.34	Fault Protection Action Selection 2	2: Continue running Thousands digit: Reserved Ten-thousands digit: Running time reached (Err26) (Same of Hundreds place)	00000	△
P09.35	Fault Protection Action Selection 3	Units digit: User-defined fault 1 (Err27) 0: Free stop 1: Stop according to stop mode 2: Continue running Tens digit: User-defined fault 2 (Err28) (Same as units digit) Hundreds digit: Power-on time reached (Err29) (Same as units digit) Thousands digit: Load loss (Err30) 0: Free stop 1: Decelerate to stop 2: Directly jump to 7% of motor rated frequency to continue running; automatically resume to set frequency when load is restored Ten-thousands digit: PID feedback loss during operation (Err31) (Same as thousands digit)	00000	△
P09.38	AI Temperature Drift Compensation Enable	0: Disabled 1: Enabled	1	△
P09.39	Output Phase Loss Current Judgment Threshold	0 ～ 50	10	▲
P09.40	Continued Operation Frequency Selection in Case of Fault	0: Operate at the current running frequency 1: Operate at the set frequency 2: Operate at the upper limit frequency 3: Operate at the lower limit frequency 4: Operate at the standby frequency	0	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P09.41	Abnormal Standby Frequency	0.0% ～ 100.0% (100.0% corresponds to the maximum frequency P00.10)	100.0%	△
P09.42	First Fault Type	0: No fault 2: Overcurrent during acceleration (Err02) 3: Overcurrent during deceleration (Err03) 4: Overcurrent at constant speed (Err04) 5: Overvoltage during acceleration (Err05) 6: Overvoltage during deceleration (Err06) 7: Overvoltage at constant speed (Err07) 9: Undervoltage (Err09) 10: Inverter overload (Err10) 11: Motor overload (Err11) 12: Input phase loss (Err12) 13: Output phase loss (Err13) 14: Module overheating (Err14) 15: External fault (Err15) 16: Communication abnormality (Err16) 17: Phase-to-phase short circuit (Err17) 18: Current detection abnormality (Err18) 19: Motor tuning abnormality (Err19) 21: Parameter read/write abnormality (Err21) 22: Parameter download abnormality (Err22) 23: Motor ground fault (Err23) 26: Cumulative operating time reached (Err26) 27: User-defined fault 1 (Err27) 28: User-defined fault 2 (Err28)	-	●

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P09.43	Second Fault Type	29: Cumulative power-on time reached (Err29) 30: Load loss (Err30) 31: PID feedback loss during operation (Err31) 35: Soft start fault (Err35) 40: Fast current limiting timeout (Err40) 41: Motor switching during operation (Err41) 42: Speed Deviation Too Large (Err42) 55:Water shortage fault (Err55) 56:High water pressure fault (Err56) 57:Low water pressure fault (Err57)	-	●
P09.44	Third (Latest) Fault Type		-	●
P09.45	Frequency at Third (Latest) Fault	0.00Hz ～ 655.35Hz	-	●
P09.46	Current at Third (Latest) Fault	0.00A ～ 655.35A	-	●
P09.47	Bus Voltage at Third (Latest) Fault	0.0V ～ 6553.5V	-	●
P09.48	Input Terminal Status at Third (Latest) Fault	0 ～ 32767	-	●
P09.49	Output Terminal Status at Third (Latest) Fault	0 ～ 511	-	●
P09.50	Inverter Status at Third (Latest) Fault	0 ～ 32767	-	●
P09.51	Power-on Time at Third (Latest) Fault	0Min ～ 65535Min	-	●
P09.52	Operating Time at Third (Latest) Fault	0.0Min ～ 6553.5Min	-	●

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P09.53	Frequency at Second Fault	0.00Hz ～ 655.35Hz	-	●
P09.54	Current at Second Fault	0.00A ～ 655.35A	-	●
P09.55	Bus Voltage at Second Fault	0.0V ～ 6553.5V	-	●
P09.56	Input Terminal Status at Second Fault	0 ～ 32767	-	●
P09.57	Output Terminal Status at Second Fault	0 ～ 511	-	●
P09.58	Inverter Status at Second Fault	0 ～ 32767	-	●
P09.59	Power-on Time at Second Fault	0Min ～ 65535Min	-	●
P09.60	Operating Time at Second Fault	0.0Min ～ 6553.5Min	-	●
P09.61	Frequency at First Fault	0.00Hz ～ 655.35Hz	-	●
P09.62	Current at First Fault	0.00A ～ 655.35A	-	●
P09.63	Bus Voltage at First Fault	0.0V ～ 6553.5V	-	●
P09.64	Input Terminal Status at First Fault	0 ～ 32767	-	●
P09.65	Output Terminal Status at First Fault	0 ～ 511	-	●
P09.66	Inverter Status at First Fault	0 ～ 32767	-	●
P09.67	Power-on Time at First Fault	0Min ～ 65535Min	-	●
P09.68	Operating Time at First Fault	0.0Min ～ 6553.5Min	-	●

Function Cod	Name	Setting Range	Factory Default	Modifiable
P09.69	Temperature at Third Fault	0 ～ 65535°C	-	●
P09.70	Overspeed deviation detection threshold	0.0%~50.0%(P00.10 Maximum Frequency)	20.0%	△
P09.71	Overspeed deviation detection time	0.0s: No detection 0.1~60.0s	5.0s	△
P09.73	Momentary power failure non-stop gain	0 ～ 100	40	△
P09.74	Momentary power failure non-stop integral coefficient	0 ～ 100	30	△
P09.75	Momentary power failure non-stop action deceleration time	0.0 ～ 300.0	20.0	▲

Group P10 PID Functions

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P10.00	PID Setpoint Source	0: Set by P10.01 1: AI1 2: AI2 3: Communication given 4:Multi-segment command given 5: DI6 pulse input setpoint 6: Keypad potentiometer setpoint 7: Setting of P25.01 (mod-ifiable via UP/DOWN, no power-off memory) 8: Setting of P25.01 (modifiable via UP/DOWN, with power-off memory)	0	△
P10.01	PID Numerical Set-point	0.0% ～ 100.0%	50.0%	△
P10.02	PID Feedback Source	0: AI1 1: AI2 3: Communication given 4：AI1+AI2 5：MAX(|AI1|, |AI2|) 6：MIN(|AI1|, |AI2|) 7: DI6 pulse input setpoint	0	△
P10.03	PID Action Direction	0: Direct action 1: Reverse action	0	△
P10.04	PID Setpoint/Feed-back Range	0 ～ 65535	1000	△
P10.05	Proportional Gain Kp1	0.0 ～ 100.0	20.0	△
P10.06	Integral Time Ti1	0.01s ～ 10.00s	2.00s	△
P10.07	Derivative Time Td1	0.000s ～ 10.000s	0.000s	△
P10.08	PID Reverse Cut-off Frequency	0.00 ～ Maximum frequency (P00.10)	2.00Hz	△
P10.09	PID Deviation Limit	0.0% ～ 100.0%	0.0%	△
P10.10	PID Derivative Limiting	0.00% ～ 100.00%	0.10%	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P10.11	PID Setpoint Ramp Time	0.00 ～ 650.00s	0.00s	△
P10.12	PID Feedback Filter Time	0.00 ～ 60.00s	0.00s	△
P10.13	PID Output Filter Time	0.00 ～ 60.00s	0.00s	△
P10.14	Proportional Gain Kp2	0.0 ～ 100.0	20.0	△
P10.15	Integral Time Ti2	0.01s ～ 10.00s	2.00s	△
P10.16	Derivative Time Td2	0.000s ～ 10.000s	0.000s	△
P10.17	PID Parameter Switching Condition	0: No switching 1: Switch via DI terminal 2: Automatic switching based on deviation 3: Automatic switching based on operating frequency	0	△
P10.18	PID Parameter Switching Deviation 1	0.0% ～ P10.19	20.0%	△
P10.19	PID Parameter Switching Deviation 2	P10.18 ～ 100.0%	80.0%	△
P10.20	PID Initial Value	0.0% ～ 100.0%	0.0%	△
P10.21	PID Initial Value Hold Time	0.00 ～ 650.00s	0.00s	△
P10.22	Maximum Positive Output Deviation Between Two Cycles	0.00% ～ 100.00%	1.00%	△
P10.23	Maximum Negative Output Deviation Between Two Cycles	0.00% ～ 100.00%	1.00%	△
P10.24	PID Integral Attribute	Units digit: Integral separa-tion 0: Invalid 1: Valid Tens digit: Whether to stop integration when output reaches limit 0: Continue integration 1: Stop integration	00	△

Function Cod	Name	Setting Range	Factory Default	Modifi-able
P10.25	PID Feedback Loss Detection Value	0.0%：Do not judge feed-back loss 0.1% ～ 100.0%	0.0%	△
P10.26	PID Feedback Loss Detection Time	0.0s ～ 20.0s	0.0s	△
P10.27	PID Calculation During Shutdown	0: No calculation when stopped 1: Calculation when stopped	0	△
P10.28	Wake-up Frequency	Sleep frequency(P10.30) ～ -Maximum frequency（P00.10)	0.00Hz	△
P10.29	Wake-up Delay Time	0.0s ～ 6500.0s	0.0s	△
P10.30	Sleep Frequency	0.00Hz ～ Wake-up frequen-cy（P10.28)	0.00Hz	△
P10.31	Sleep Delay Time	0.0s ～ 6500.0s	0.0s	△
P10.32	Wake-up Deviation	0.0%：Wake-up frequency valid 0.1% ～ 100.0%：Wake-up deviation valid	0.0%	△

Group P11 multi-speed and simple PLC

Function Cod	Name	Setting Range	Factory Default	Modifiable
P11.00	Multi-Speed Command 0	-100.0% ～ 100.0%	0.0%	△
P11.01	Multi-Speed Command 1	-100.0% ～ 100.0%	0.0%	△
P11.02	Multi-Speed Command 2	-100.0% ～ 100.0%	0.0%	△
P11.03	Multi-Speed Command 3	-100.0% ～ 100.0%	0.0%	△
P11.04	Multi-Speed Command 4	-100.0% ～ 100.0%	0.0%	△
P11.05	Multi-Speed Command 5	-100.0% ～ 100.0%	0.0%	△
P11.06	Multi-Speed Command 6	-100.0% ～ 100.0%	0.0%	△
P11.07	Multi-Speed Command 7	-100.0% ～ 100.0%	0.0%	△
P11.08	Multi-Speed Command 8	-100.0% ～ 100.0%	0.0%	△
P11.09	Multi-Speed Command 9	-100.0% ～ 100.0%	0.0%	△
P11.10	Multi-Speed Command 10	-100.0% ～ 100.0%	0.0%	△
P11.11	Multi-Speed Command 11	-100.0% ～ 100.0%	0.0%	△
P11.12	Multi-Speed Command 12	-100.0% ～ 100.0%	0.0%	△
P11.13	Multi-Speed Command 13	-100.0% ～ 100.0%	0.0%	△
P11.14	Multi-Speed Command 14	-100.0% ～ 100.0%	0.0%	△
P11.15	Multi-Speed Command 15	-100.0% ～ 100.0%	0.0%	△
P11.16	Simple PLC Operation Mode	0: Stop after single run ends 1: Hold final value after single run ends 2: Cycle continuously	0	△
P11.17	Simple PLC Power-Off Memory Selection	Units digit: Power-off memory selection 0: No memory when power-off 1: Memory when power-off Tens digit: Stop memory selection 0: No memory when stopped 1: Memory when stopped	00	△
P11.18	Simple PLC Segment 0 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.19	Simple PLC Segment 0 Acceleration/Deceleration Time Selection	0 ～ 3	0	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P11.20	Simple PLC Segment 1 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.21	Simple PLC Segment 1 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.22	Simple PLC Segment 2 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.23	Simple PLC Segment 2 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.24	Simple PLC Segment 3 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.25	Simple PLC Segment 3 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.26	Simple PLC Segment 4 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.27	Simple PLC Segment 4 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.28	Simple PLC Segment 5 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.29	Simple PLC Segment 5 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.30	Simple PLC Segment 6 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.31	Simple PLC Segment 6 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.32	Simple PLC Segment 7 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.33	Simple PLC Segment 7 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.34	Simple PLC Segment 8 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P11.35	Simple PLC Segment 8 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.36	Simple PLC Segment 9 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.37	Simple PLC Segment 9 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.38	Simple PLC Segment 10 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.39	Simple PLC Segment 10 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.40	Simple PLC Segment 11 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.41	Simple PLC Segment 11 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.42	Simple PLC Segment 12 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.43	Simple PLC Segment 12 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.44	Simple PLC Segment 13 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.45	Simple PLC Segment 13 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.46	Simple PLC Segment 14 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△
P11.47	Simple PLC Segment 14 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.48	Simple PLC Segment 15 Running Time	0.0s(h) ～ 6500.0s(h)	0.0s(h)	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P11.49	Simple PLC Segment 15 Acceleration/Deceleration Time Selection	0 ～ 3	0	△
P11.50	Simple PLC Running Time Unit	0: s (seconds) 1: h (hours)	0	△
P11.51	Multi-Speed Command 0 Setting Method	0: Given by function code P11.00 1: AI1 2: AI2 3: PID 4: Given by preset frequency (P00.08), can be modified via UP/DOWN 5: DI6 pulse input setpoint 6:Keypad potentiometer setpoint	0	△

Group P12 Swing frequency, fixed length and counting

Function Cod	Name	Setting Range	Factory Default	Modifiable
P12.05	Set length	0m ～ 65535m	1000m	△
P12.06	Actual length	0m ～ 65535m	0m	●
P12.07	Pulses per meter	0.1 ～ 6553.5	100.0	△
P12.08	Set count value	Specified count value (P12.09) ～ 65535	1000	△
P12.09	Specified count value	1 ～ Specified count value (P12.08)	1000	△
P12.10	Automatic reset when set count value is reached	0: Prohibit 1: Allow	1	△

Group P13 Communication Parameters

Function Cod	Name	Setting Range	Factory Default	Modifiable
P13.00	Communication baud rate	0：300BPS 1：600BPS 2：1200BPS 3：2400BPS 4：4800BPS 5：9600BPS 6：19200BPS 7：38400BPS 8：57600BPS 9：115200BPS	5	△
P13.01	MODBUS data check format	0: No parity (8-N-2) 1: Even parity (8-E-1) 2: Odd parity (8-O-1) 3: No parity (8-N-1) (MODBUS valid)	3	△
P13.02	Local address	1 ～ 247	1	△
P13.03	MODBUS response delay	0 ～ 20ms (MODBUS valid)	2	△
P13.04	Serial communication timeout time	0.0: Invalid 0.1 ～ 60.0s	0.0	△
P13.05	Communication data format selection	LED units digit: 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol LED tens digit: 0: Non-standard MODBUS fault response protocol 1: Standard MODBUS fault response protocol	1	△
P13.06	Communication read current resolution	0：0.01A 1：0.1A	0	△

Group P14 Virtual IO

Function Cod	Name	Setting Range	Factory Default	Modifiable
P14.00	Virtual VDI1 terminal function selection	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.01	Virtual VDI2 terminal function selection	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.02	Virtual VDI3 terminal function selection	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.03	Virtual VDI4 terminal function selection	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.04	Virtual VDI5 terminal function selection	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.05	Virtual VDI terminal status setting mode	0: Whether VDI is valid is determined by the status of virtual VDOx 1: Whether VDI is valid is set by function code P14.06 Units place: Virtual VDI1 Tens place: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: Virtual VDI4 Ten-thousands place: Virtual VDI5	00000	▲
P14.06	Virtual VDI terminal status setting	0: Invalid 1: Valid Units place: Virtual VDI1 Tens place: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: Virtual VDI4 Ten-thousands place: Virtual VDI5	00000	△
P14.07	Function selection when AI1 terminal is used as DI	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.08	Function selection when AI2 terminal is used as DI	0 ～ 48 (Refer to Group P05 DI terminal function selection)	0	▲
P14.09	Valid mode selection when AI terminal is used as DI	0：High-level active 1：Low-level active Units place: AI1 Tens place: AI2	0	▲

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P14.10	Virtual VDO1 output function selection	0: Internally shorted with physical DIx 1–39: See Group P06 physical DO output selection	0	△
P14.11	Virtual VDO2 output function selection	0: Internally shorted with physical DIx 1–40: See Group P06 physical DO output selection	0	△
P14.12	Virtual VDO3 output function selection	0：Internally shorted with physical DIx 1～40：See Group P06 physical DO output selection	0	△
P14.13	Virtual VDO4 output function selection	0：Internally shorted with physical DIx 1～40：See Group P06 physical DO output selection	0	△
P14.14	Virtual VDO5 output function selection	0：Internally shorted with physical DIx 1～40：See Group P06 physical DO output selection	0	△
P14.15	VDO1 output delay time	0.0s～3600.0s	0.0s	△
P14.16	VDO2 output delay time	0.0s～3600.0s	0.0s	△
P14.17	VDO3 output delay time	0.0s～3600.0s	0.0s	△
P14.18	VDO4 output delay time	0.0s～3600.0s	0.0s	△
P14.19	VDO5 output delay time	0.0s～3600.0s	0.0s	△
P14.20	VDO output terminal valid status selection	0: Positive logic 1: Negative logic Units digit: VDO1 Tens digit: VDO2 Hundreds digit: VDO3 Thousands digit: VDO4 Ten-thousands digit: VDO5	00000	△

Group P15 Motor 2 Parameters

Function Cod	Name	Setting Range	Factory Default	Modifiable
P15.00	Motor type selection	0: Ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	▲
P15.01	Motor rated power	0.1kW ～ 22.0kW	Model Confirmation	▲
P15.02	Motor rated voltage	1V ～ 2000V	Model Confirmation	▲
P15.03	Motor rated current	0.01A ～ 45.00A	Model Confirmation	▲
P15.04	Motor rated frequency	0.01Hz ～ Maximum frequency upper limit value	Model Confirmation	▲
P15.05	Motor rated speed	1rpm ～ 65000rpm	Model Confirmation	▲
P15.06	Asynchronous motor stator resistance	0.001Ω ～ 65.000Ω	Model Confirmation	▲
P15.07	Asynchronous motor rotor resistance	0.001Ω ～ 65.000Ω	Model Confirmation	▲
P15.08	Asynchronous motor leakage reactance	0.01mH ～ 650.00mH	Model Confirmation	▲
P15.09	Asynchronous motor mutual reactance	0.1mH ～ 6500.0mH	Model Confirmation	▲
P15.10	Asynchronous motor no-load current	0.01A ～ P15.03	Model Confirmation	▲
P15.11	Speed loop proportional gain 1	1 ～ 100	30	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P15.12	Speed loop integral time 1	0.01s ～ 10.00s	1.00s	△
P15.13	Switching frequency 1	0.00 ～ P15.16	5.00Hz	△
P15.14	Speed loop proportional gain 2	1 ～ 100	30	△
P15.15	Speed loop integral time 2	0.01s ～ 10.00s	1.00s	△
P15.16	Switching frequency 2	P15.13 ～ Maximum frequency (P00.10)	10.00Hz	△
P15.17	Vector control slip gain	50% ～ 200%	100%	△
P15.18	Speed loop output torque filter time constant	0.000s ～ 0.031s	0.000s	△
P15.20	Speed control torque limit source	0: Set by P15.21 1: AI1 2: AI2 3: Given by communication 4：MIN(AI1,AI2) 5：MAX(AI1,AI2) 6: DI6 pulse input setpoint 7: Keypad potentiometer setpoint (The full scale of options 1–7 corresponds to the digital setting of P15.21)	0	▲
P15.21	Speed control torque limit digital setting	0.0% ～ 200.0%	150.0%	△
P15.22	Excitation regulation proportional gain	0 ～ 60000	2000	△
P15.23	Excitation regulation integral gain	0 ～ 60000	1300	△
P15.24	Torque regulation proportional gain	0 ～ 60000	2000	△
P15.25	Torque regulation integral gain	0 ～ 60000	1300	△
P15.26	Speed loop integral property	0: Invalid 1: Valid	0	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P15.27	Voltage Overmodulation Coefficient	100~110	105	▲
P15.28	Maximum Torque Coefficient in Field Weakening Region	50~200	100	△
P15.30	Motor 2 control mode	0~1	0	▲
P15.31	Motor 2 acceleration/deceleration time selection	0: Same as Motor 1 1: Acceleration/deceleration time 1 2: Acceleration/deceleration time 2 3: Acceleration/deceleration time 3 4: Acceleration/deceleration time 4	0	△
P15.32	Motor 2 torque boost	0.0%: Automatic torque boost 0.1% ~ 30.0%	Model Confirmation	△
P15.33	Motor 2 oscillation suppression gain	0 ~ 100	Model Confirmation	△

Group P16 Control Optimization Parameters

Function Cod	Name	Setting Range	Factory Default	Modifiable
P16.00	DPWM switching upper limit frequency	0.00Hz ～ 15.00Hz	12.00Hz	△
P16.01	PWM modulation mode	0: Asynchronous modulation 1: Synchronous modulation	0	△
P16.02	Dead-time compensation mode selection	0: No compensation 1: Compensation mode 1 2: Compensation mode 2	1	△
P16.03	Random PWM depth	0: Random PWM inactive 1–10: PWM carrier frequency random depth	0	△
P16.04	Current detection compensation	0 ～ 100	5	△
P16.05	Open-loop vector optimization mode selection	0: No optimization 1: Optimization mode 1 2: Optimization mode 2	2	▲
P16.06	Low-frequency carrier frequency	0 ～ P00.15	0	△
P16.08	SVC low-speed rotor speed maximum filtering coefficient	0.030s ～ 2.000s	0.100s	△
P16.09	SVC rotor speed filtering coefficient	0.000s ～ 2.000s	Model Confirmation	△
P16.11	Flux weakening algorithm selection	Units digit: Closed-loop vector field weakening algorithm 0: Speed regulation 1: Feedback regulation Tens digit: Open-loop vector field weakening algorithm 0: Speed regulation 1: Feedback regulation	H.01	▲
P16.12	Flux weakening proportional gain	0~65000	1000	△
P16.13	Flux weakening integral gain	0~65000	4000	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P16.14	Flux weakening regulation lower limit	5.0%~100.0%	30.0%	△
P16.17	Static friction compensation value	-50.0%~50.0%	0.0%	△
P16.18	Static friction compensation cutoff frequency	0.00Hz~Maximum frequency (P00.10)	2.00HZ	△
P16.19	Static friction compensation hold time	0.0~60.0s	2.0s	△
P16.20	Static friction compensation elimination time	0.0~60.0s	1.0s	△
P16.21	Sliding friction compensation starting value	-50.0%~50.0%	0.0%	△
P16.22	Sliding friction compensation ending value	-50.0%~50.0%	0.0%	△

Group P17 user-defined parameters

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P17.00	User function code 0	U00.XX ～ U30.XX	U88.88	△
P17.01	User function code 1		U88.88	△
P17.02	User function code 2		U88.88	△
P17.03	User function code 3		U88.88	△
P17.04	User function code 4		U88.88	△
P17.05	User function code 5		U88.88	△
P17.06	User function code 6		U88.88	△
P17.07	User function code 7		U88.88	△
P17.08	User function code 8		U88.88	△
P17.09	User function code 9		U88.88	△
P17.10	User function code 10		U88.88	△
P17.11	User function code 11		U88.88	△
P17.12	User function code 12		U88.88	△
P17.13	User function code 13		U88.88	△
P17.14	User function code 14		U88.88	△
P17.15	User function code 15		U88.88	△
P17.16	User function code 16		U88.88	△
P17.17	User function code 17		U88.88	△
P17.18	User function code 18		U88.88	△
P17.19	User function code 19		U88.88	△
P17.20	User function code 20		U88.88	△
P17.21	User function code 21		U88.88	△
P17.22	User function code 22		U88.88	△
P17.23	User function code 23		U88.88	△
P17.24	User function code 24		U88.88	△
P17.25	User function code 25		U88.88	△
P17.26	User function code 26		U88.88	△
P17.27	User function code 27		U88.88	△
P17.28	User function code 28		U88.88	△
P17.29	User function code 29		U88.88	△

Group P19 brake logic control module

Function Cod	Name	Setting Range	Factory Default	Modifiable
P19.00	Brake logic enable	0: Brake logic disabled 1: Brake logic enabled	0	▲
P19.01	Brake release current threshold	0 ～ 200%(Relative motor)	50%	△
P19.02	Brake application current threshold	0 ～ 200%(Relative motor)	10%	△
P19.03	Brake release frequency threshold	0.10 ～ 20.00Hz	1.00Hz	△
P19.04	Brake application frequency threshold	0.10 ～ 20.00Hz	2.00Hz	△
P19.05	Run frequency hold time before brake release	0.0 ～ 25.0seconds	0.0seconds	△
P19.06	Run frequency hold time after brake release	0.0 ～ 25.0seconds	0.0seconds	△
P19.07	Run frequency hold time after brake application	0.0 ～ 25.0seconds	0.0seconds	△
P19.08	Current duration before brake release	0.0 ～ 25.0seconds	0.0seconds	△
P19.09	Enable reverse operation during direction switch when brake is active	0: Disabled 1: enabled	0	▲

Group P22 Fire mode

Function Cod	Name	Setting Range	Factory Default	Modifiable
P22.00	Fire mode	0: Disabled 1: Enable Fire Mode 1 2: Enable Fire Mode 2 (Auto-restart)	0	▲
P22.01	Fire mode operation frequency	0.00Hz ~ Max frequency (P00.10)	50.00Hz	△
P22.02	Fire mode start frequency	0.00Hz ~ Max frequency (P00.10)	0.00Hz	△
P22.03	Fire mode running direction	0: Forward 1: Reverse	0	△
P22.04	Fire mode stop mode	0: Power-off shutdown 1: Shutdown via DI terminal enabled	0	△

P25. Group Constant Pressure Control Mode

Function Cod	Name	Setting Range	Factory Default	Modifiable
P25.00	Constant pressure enable	0：Not enabled 1：Enabled	0	△
P25.01	Pressure setting	1.0 ～ P25.12	3.0bar	△
P25.02	Wake-up pressure deviation	0.0 ～ 10.0 bar	0.0bar	△
P25.03	Sleep pressure deviation	0.0 ～ 10.0 bar	0.0bar	△
P25.04	Sensor range	1.0 ～ 200.0	10bar	△
P25.05	Power-on auto-start function	0: Off 1: On	0	△
P25.06	Power - on automatic start - up delay	0.0~100.0s	5.0s	△
P25.07	Anti-freezing function	0: Off 1: On	0	△
P25.08	Anti-freezing operation frequency	0.0~50.00Hz	10.00Hz	△
P25.09	Anti-freezing operation time	0~1000s	60s	△
P25.10	Anti-freezing operation cycle	0~1000s	300s	△
P25.12	High - pressure alarm set value	P25.01~ P25.04	9.0bar	△
P25.13	High-pressure alarm delay time	0.0~120.0s 0.0:Do not detect high water pressure faults	3.0s	△
P25.14	Low-pressure alarm set value	0.0~ P25.12	0.0bar	△
P25.15	Low-pressure alarm delay time	0.0~120.0s 0.0:Do not detect high water pressure faults	3.0s	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P25.16	Water shortage protection function	0: Off 1: Judge water shortage based on frequency and current 2: Judge based on frequency and pressure 3: Judge water shortage based on frequency, current and pressure	0	△
P25.17	Water shortage fault detection pressure threshold	0.0~ P25.01	0.5bar	△
P25.18	Water shortage protection frequency	0~Max	48.00Hz	△
P25.19	Water shortage protection detection current	0~100.0%	40.0%	△
P25.20	Water shortage protection detection time	0.0~200.0s	60.0s	△
P25.21	Water shortage protection automatic restart delay	0-9999min	15min	△
P25.22	Water supply detection pressure	0.0~ P25.01	1.0bar	△
P25.23	Water supply detection time	0.0-100.0s	20.0s	△
P25.24	AI Input Selection for Water Supply Pressure Sensor	0：AI1 1：AI2	0	△
P25.25	Display mode	0: Pressure display mode 1: Normal display mode	1	△

Function Cod	Name	Setting Range	Factory Default	Modi-fiable
P25.26	Multi-pump control mode	0: One inverter driving one water pump (single pump) 1: One inverter driving two water pumps (Pump 1 fixed as inverter-driven, Pump 2 as power-frequency-driven) 2: One inverter driving three water pumps (Pump 1 fixed as inverter-driven, Pumps 2 and 3 as power-frequency-driven) 3: One inverter driving four water pumps (Pump 1 fixed as inverter-driven, Pumps 2, 3 and 4 as power-frequency-driven) 11: Two-unit network main unit setting 12: Three-unit network main unit setting 13: Four-unit network main unit setting 14: Five-unit network main unit setting 21: Network No.1 auxiliary unit setting (standby main unit) 22: Network No.2 auxiliary unit setting 23: Network No.3 auxiliary unit setting 24: Network No.4 auxiliary unit setting	0	△
P25.27	Pump addition trigger frequency	0.00Hz~ Max Hz （P00.10）	50.00Hz	△
P25.28	Pump addition trigger delay time	0.1-6000.0s	30.0s	△
P25.29	Pump reduction trigger frequency	0.00Hz~ Max Hz （P00.10）	30.00Hz	△
P25.30	Pump reduction trigger delay time	0.1-6000.0s	30.0s	△
P25.31	Pressure dead zone for pump addition and reduction	0.0~ P25.12	0.5bar	△
P25.32	Multi-pump switching interval time	0.1-6000.0s	300.0s	△

Function Cod	Name	Setting Range	Factory Default	Modifiable
P25.33	Multi-pump online mode	0: Multi-pump master-auxiliary control (when pressure is insufficient, auxiliary pumps are put into operation in sequence) 1: Multi-pump synchronous control (when pressure is insufficient, auxiliary pumps operate at the same frequency) 2: Multi-pump one-in-use one-standby (only one water pump operates at any time, and the remaining pumps serve as backups for each other)	0	△
P25.34	Water pump rotation switching cycle	0-2000h 0: No pump switching 111: For debugging use, pump switching action executes every 2 minutes. Please reset to other values after debugging is completed	0h	△
P25.35	Standby main unit operation mode	0: Shutdown 1: Constant speed 2: Constant pressure	0	△
P25.36	Operating frequency of standby main unit mode 1	0.00Hz ～ Maximum frequency (P00.10)	50.00Hz	△
P25.37	Number of standby main unit's slave units	0 ～ 3	1	△

5.2 Monitoring Parameters Summary Table

Group P30 Display Group

Function Code	Name	Minimum Unit
P30.00	Operating frequency (Hz)	0.01Hz
P30.01	Set frequency (Hz)	0.01Hz
P30.02	Bus voltage (V)	0.1V
P30.03	Output voltage (V)	1V
P30.04	Output current (A)	0.01A
P30.05	Output power (kW)	0.1kW
P30.06	Output torque (%) (relative to motor rated torque)	0.1%
P30.07	DI input status	1
P30.08	DO output status	1
P30.09	AI1 voltage (V)	0.01V
P30.10	AI2 voltage (V)	0.01V
P30.11	Load speed display	1
P30.12	PID setpoint	1
P30.13	PID feedback	1
P30.14	PLC phase	1
P30.15	Feedback speed (Hz)	0.01Hz
P30.16	Remaining run time	0.1Min
P30.17	AI1 voltage before calibration (V)	0.001V
P30.18	AI2 voltage before calibration (V)	0.001V
P30.19	Linear velocity	1m/Min
P30.20	Current power-on time	1Min
P30.21	Current running time	0.1Min
P30.22	Communication set value	0.01%
P30.23	Main frequency X display	0.01Hz
P30.24	Auxiliary frequency Y display	0.01Hz
P30.25	View any memory address value	1
P30.26	Target torque (%)	0.1%
P30.27	DI6 pulse input frequency (KHz)	0.01KHz
P30.28	Power factor angle	0.1°

Function Code	Name	Minimum Unit
P30.29	V/F separation target voltage	1V
P30.30	V/F separation output voltage	1V
P30.31	Intuitive display of DI1 input status	1
P30.32	Intuitive display of DI2 input status	1
P30.33	Intuitive display of DI function status 1 (Function 01-40)	1
P30.34	Intuitive display of DI function status 2 (Function 41-46)	1
P30.35	Fault information	1
P30.36	Set frequency (%)	0.01%
P30.37	Operating frequency (%)	0.01%
P30.38	Inverter status	1
P30.39	Torque limit	0.1%
P30.40	Count value	1
P30.41	Length value	1
P30.42	Motor speed	1
P30.43	DSP temperature (° C)	1
P30.44	AI temperature drift voltage deviation	1
P30.45	AI1 temperature drift compensation value	1
P30.46	AI2 temperature drift compensation value	1
P30.47	Actual trial run time	1h
P30.48	Remaining trial run time	1h
P30.49	Monitoring speed	0.01Hz
P30.50	Speed tracking initial frequency	0.01Hz
P30.51	Output torque (relative to inverter rated torque)	0.1%
P30.52	Actual carrier frequency	0.1kHz
P30.53	Brake logic indication	1
P30.56	Low-order cumulative power consumption	1 kW・h
P30.57	High-order cumulative power consumption	10000 kW・h
P30.58	Heat sink temperature	0.1°C
P30.59	Set Pressure	0.1Bar
P30.60	Feedback Pressure	0.1Bar
P30.61	Multi-pump head status display	1

6. Faults and Diagnostics

When a fault occurs in the inverter, the LED nixie tube will display the corresponding fault code, the fault relay will act, the inverter will stop output, and the motor will stop due to free operation. If a fault occurs during the operation of the inverter, please check the fault type, cause and countermeasures according to the content described in this chapter. The lists in the table are for reference only. Do not disassemble or modify the inverter without authorization. If the cause cannot be eliminated, please seek technical support from our company or agents.

Fault Code	Fault Type	Possible Fault Causes	Fault Handling Measures
	Acceleration overcurrent	1.There is a ground fault or short circuit in the inverter output circuit 2.The control mode is vector but no parameter tuning has been performed 3.Acceleration time is too short 4.Manual torque boost or V/F curve is inappropriate 5.Voltage is too low 6.Starting a rotating motor 7.Sudden load application during acceleration 8.Inverter is undersized for the application	1.Eliminate peripheral faults 2.Perform motor parameter tuning 3.Increase the acceleration time 4.Adjust the manual torque boost or V/F curve 5.Regulate the voltage to the normal range 6.Select speed tracking start or start after the motor stops 7.Cancel the sudden application of load 8.Select an inverter with a higher power rating
	Deceleration overcurrent	1.There is a ground fault or short circuit in the inverter output circuit 2.The control mode is vector but parameter tuning has not been performed 3.Deceleration time is too short 4.Voltage is too low 5.Sudden load application during deceleration 6.No braking unit or braking resistor is installed	1.Eliminate peripheral faults 2.Perform motor parameter tuning 3.Increase the deceleration time 4.Regulate the voltage to the normal range 5.Cancel the sudden application of load 6.Install a braking unit and resistor
	Constant speed overcurrent	1.There is a ground fault or short circuit in the inverter output circuit 2.The control mode is vector but parameter tuning has not been performed 3.Voltage is too low	1.Eliminate peripheral faults 2.Perform motor parameter tuning 3.Regulate the voltage to the normal range

Fault Code	Fault Type	Possible Fault Causes	Fault Handling Measures
	Constant speed over-current	4.Whether there is a sudden load application during operation 5.The inverter is undersized	4. Cancel the sudden application of load 5. Select an inverter with a higher power rating
	Acceleration overvoltage	1.Input voltage is too high 2.There is external force dragging the motor during acceleration 3.Acceleration time is too short 4.No braking unit or braking resistor is installed	1.Adjust the voltage to the normal range 2.Remove the external driving force or install a braking resistor 3.Increase the acceleration time 4.Install a braking unit and resistor
	Decel-eration overvoltage	1.Input voltage is too high 2.There is external force dragging the motor during deceleration 3.Deceleration time is too short 4.No braking unit or braking resistor is installed	1.Adjust the voltage to the normal range 2.Remove the external driving force or install a braking resistor 3.Increase the deceleration time 4.Install a braking unit and resistor
	Constant speed over-voltage	1.Input voltage is too high 2.There is an external force dragging the motor during operation	1.Adjust the voltage to the normal range Remove the external driving force or install a braking resistor
	Undervolt-age	1.Instantaneous power failure 2.Inverter input voltage is too low 3.Bus voltage is too low 4.Rectifier bridge and buffer resistor are abnormal	1.Reset the fault 2.Adjust the voltage to the normal range 3.Seek technical support 4.Seek technical support

Fault Code	Fault Type	Possible Fault Causes	Fault Handling Measures
	Inverter overload	1.Whether the load is too large or the motor is locked-rotor 2.The inverter is undersized	1.Reduce the load and inspect the motor and mechanical components 2.Select an inverter with a higher power rating
	Motor overload	1.Whether the motor protection parameter P09.01 is set appropriately 2.Whether the load is too large or the motor is locked-rotor 3.The inverter is undersized	1.Correctly configure this parameter 2.Reduce the load and inspect the motor and mechanical components 3.Select an inverter with a higher power rating
	Input phase loss	1.Three-phase input power supply is abnormal 2.Driver board is abnormal 3.Main control board is abnormal	1.Inspect and eliminate issues in the peripheral wiring 2.Seek technical support
	Output phase loss	1.The wiring from the inverter to the motor is abnormal 2.Three-phase output of the inverter is unbalanced during motor operation 3.Driver board malfunction Power module failure	1.Eliminate peripheral faults 2.Check the motor's three-phase windings for normality and troubleshoot 3.Seek technical support
	Abnormal module temperature	1.Ambient temperature is too high or lower than -20°C 2.Air duct is blocked 3.Fan is damaged 4.Module thermistor is damaged or disconnected	1.Reduce the ambient temperature or increase it to above -20° C 2.Clean the air ducts 3.Replace the fan Replace the thermistor
	External fault	1.External fault signal input via DI or VDI	1.Check for external fault sources

Fault Code	Fault Type	Possible Fault Causes	Fault Handling Measures
	Commu-nication abnormality	1.The upper computer is malfunctioning 2.The communication cable is abnormal 3.The communication parameters in Group P13 are set incorrectly	1.Inspect the host computer wiring 2.Check the communication connection cables 3.Correctly set the communication parameters
	Phase-to-phase (U, V and W) short circuit	1.Three-phase output of the inverter is short-circuited 2.Phase-to-phase short circuit of the motor	1.Inspect the three-phase connections of the inverter 2.Check for short circuits in the motor's three phases
	Current detection abnormality	1.Check for Hall device abnormality 2.Driver board malfunction	1.Replace the Hall device 2.Replace the driver board
	Motor tuning abnormality	1.Motor parameters are not set according to the name-plate 2.Parameter tuning process is timed out	1.Correctly configure the motor parameters according to the nameplate 2.Inspect the leads from the inverter to the motor
	Parameter read-write abnormality	1.EEPROM chip failure	1.Power cycle the system and Troubleshoot interference sources 2.Replace the control board 3.Replace the keypad
	Parameter download abnormality	1.The software function code version number stored in the keypad (excluding the least significant bit) is inconsistent with that of the inverter itself (excluding the least signifi-cant bit) 2.The inverter model stored in the keypad is inconsistent with the model of the inverter itself	1.Upload parameters with the same software function code version number (excluding the least significant bit), then download 2.Upload parameters for the same inverter model, then download
	Motor ground fault	1.Motor ground short circuit or insulation damage of motor cables	1.Replace the cable or motor

Fault Code	Fault Type	Possible Fault Causes	Fault Handling Measures
	Cumulative running time reached	1.The cumulative operating time reaches the set value	1.Clear the recorded information
	User-defined fault 1	1.User - defined fault 1 signal input via DI or VDI	1.Check for external fault sources
	User-defined fault 2	1.User - defined fault 2 signal input via DI or VDI	1.Check for external fault sources
	Cumulative power-on time reached	1.The cumulative power-on time reaches the set value	1.Clear the recorded information
	Load loss	1.The operating current of the inverter is less than P09.23	1.Confirm whether the load is disconnected or if parameters P09.23 and P09.24 are configured to match the actual operating conditions
	Running PID feedback loss	1.The PID feedback is less than the set value of P10.25	1.Check the PID feedback signal or set P10.25 to an appropriate value
	Soft start fault	1.Power board abnormality 2.Loose internal wiring of the inverter Rectifier module abnormality	1.Seek technical support 2.Securely reconnect the internal wiring Seek technical support
	Fast current limit time-out	1.Whether the load is too large or the motor is locked-rotor 2.The selected inverter is undersized	1.Reduce the load and inspect the motor and mechanical components 2.Select an inverter with a higher power rating
	Motor switching during operation	1.Change the current motor selection through terminals during the inverter operation	1.Perform motor switching operations only after the inverter has stopped running

Appendix I:Product Technical Specifications

Item		Specifications	
Input	Rated voltage, frequency	2S：200 - 240V，50/60 Hz 4T：380-480V，50/60 Hz	
	Allowable voltage fluctuation range	Unbalance degree: < 3%; Frequency range: 47 - 63Hz	
Output	Output voltage	0-INPUT	
	Output frequency	0-320 Hz	
	Overload capacity	N：150%-60s；180%-3s；200%-0.5s	
Control characteristics	Control mode	V/F control, open-loop vector control (SVC)	
	Starting torque	0.25Hz 150% (SVC)	
	Speed regulation range	1:100 (V/F)； 1:200 (SVC)	
	Speed stability accuracy	⩽ ±0.5% (SVC)	
	Speed fluctuation	⩽ ±0.5% (SVC)	
	Torque response	⩽ 20ms (SVC)	
	Torque control accuracy	SVC：±5%（>=5.00Hz）	
	Frequency accuracy	Low-frequency operation mode	High-frequency operation mode
		Digital setting: 0.01Hz Analog setting: 0.2% of maximum frequency	Digital setting: 0.1Hz Analog setting: 0.2% of maximum frequency
	Frequency r esolution	0.01Hz	0.1Hz
	Modulation mode	SVPWM	
	Carrier frequency	0.5 - 16kHz, adjusted according to the model	
	Automatic carrier adjustment	When this function is selected, the inverter can automatically adjust the carrier frequency according to the internal temperature.	
	Torque boost	In V/F control mode, manual torque boost is 0.1% - 30.0%	

Item		Specifications
	Torque curve	0: User-defined V/F curve; 1: 2nd power curve; 2: 1.7th power curve; 3: 1.2th power curve;
	Acceleration/ deceleration time	0 - 6500.0s, with linear acceleration/deceleration or Scurve acceleration/deceleration mode, and four sets of acceleration/deceleration times optional
Basic functions	Jog function	Jog frequency range: 0.00 - maximum frequency
		Jog acceleration/deceleration time: 0.1 - 6500.0s
	Simple PLC, multi-speed	Realize up to 16 - segment speed operation through the built - in PLC function and control terminal function
	Internal PID	Facilitate the realization of closed-loop control
	Sleep/wake function	The process PID is equipped with sleep and wake-up functions
	Torque limitation	During speed control, the torque can be limited to avoid frequent overcurrent alarms.
	DC braking	DC Braking Start Frequency: 0.00 - Maximum set frequency
		DC Braking Time: 0.01-30.00s (0.0: Inactive)
		DC Braking Current: 0.0-100.0% of inverter rated current
	Automatic Voltage Regu lation (AVR)	AVR Function: Maintains constant output voltage when input voltage deviates from rated value. Recommended for normal operation, especially when input voltage exceeds rated value.
	Automatic current limiting	Controls output current to prevent overcurrent faults. Adjusts frequency to maintain current below set limit, ensuring continuous operation.
	Overvoltage stall control	Suppresses DC bus voltage during operation to prevent overvoltage conditions.
	MODBUS communication	MODBUS Communication: Standard protocol for seamless integration with peripheral devices.
	Binding function	Directly links command and frequency input channels, eliminating need for additional parameters.
	Sink/source selection for input terminals	Configurable DI1-DI6 terminals via jumper for versatile applications.

Item		Specifications
Special functions	Multi-segment AI curve calibration	Up to 4-point curve adjustment for precise analog input correction.
	Dual motor parameters	Stores two sets of motor data for quick switching between different motors.
	Virtual I/O port	5 configurable virtual DI/DO ports for complex logic control.
	User-defined parameter group	Custom parameter sets (P17) for streamlined access and modification.
Operation and running	Command source channel	Selectable between keypad, terminal, or communication control.
	Frequency source channel	Multiple options including digital, analog, multi-speed, and communication inputs.
	Input terminals	6-channel (DI1-DI6) with sink/source selectable inputs. DI6 supports high-speed pulse input (24V, max 100kHz).
		2-channel (0-10V/0-20mA selectable). AI terminals can be repurposed as digital inputs (DI).
	Output terminals	1 programmable relay (250VAC/3A, 30VDC/3A)
		2-channel (24V, max 100kHz)
		2-channel (0-10V/0-20mA selectable)
Others	Protection class	IP20
	Cooling method	Forced Air Cooling

Appendix II: Product Technical Parameters

Inverter Model	Struc-tural Frame	Brake Unit	Rated Ouput Volage (VAC)	Rated Output Current(A)	Rated Capacity (kVA)	Suitable Motor (kW)
S100-2S00041N-A	A	Standard Built-in	220	2.5	0.9	0.4
S100-2S00071N-A	A	Standard Built-in	220	4	1.5	0.75
S100-2S00151N-A	A	Standard Built-in	220	7	2.8	1.5
S100-4T00071N-A	A	Standard Built-in	380	2.5	1.7	0.75
S100-4T00151N-A	A	Standard Built-in	380	4	2.6	1.5
S100-4T00221N-A	A	Standard Built-in	380	5.2	3.4	2.2
S100-4T00401N-B	B	Standard Built-in	380	9	5.9	4
S100-2S00221N-C	C	Standard Built-in	220	10	4.1	2.2
S100-2S00401N-C	C	Standard Built-in	220	17	6.4	4
S100-4T00551N-C	C	Standard Built-in	380	13	8.6	5.5
S100-4T00751N-C	C	Standard Built-in	380	17	11.2	7.5

Appendix III: Product Installation Dimensions

① . Disassembly and assembly of keypad

Disassemble the keypad as shown in Figure C-1: Press elastic snap joint in the direction 1 at first, and then uplift the keypad in the direction 2.

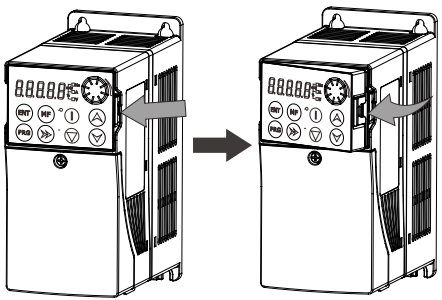


Figure C-1 Mounting Dimensions of Single-Display External Keyboard (Unit: mm)

Assemble keypad as shown in Figure C-2: Place the keypad in the groove of keypad, press the keypad in the direction 1 until you hear “crack” and the keypad is at the level of the front surface of the inverter.

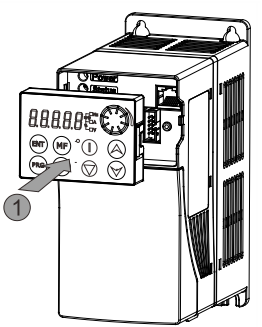


Figure C-2 Mounting Dimensions of Single-Display External Keyboard Bracket (Unit: mm)

② . Disassembly and assembly of terminal cover

Disassemble the terminal cover as shown in Figure C-3:Use a cross screwdriver to rotate the screw anticlockwise in the direction 1, take the screw out and then disassemble the cover in the direction 2.

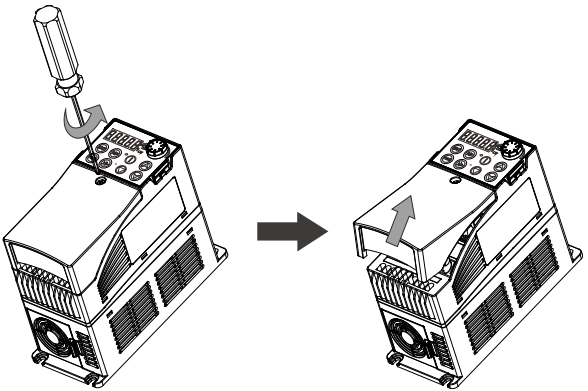


Figure C-3 Mounting Dimensions of Dual-Display External Keyboard (Unit: mm)

Assemble terminal cover as shown in Figure C-4:Place the upper snap joint in the appropriate juncture in the direction 1, use a cross screwdriver to rotate the screw clockwise in the direction2

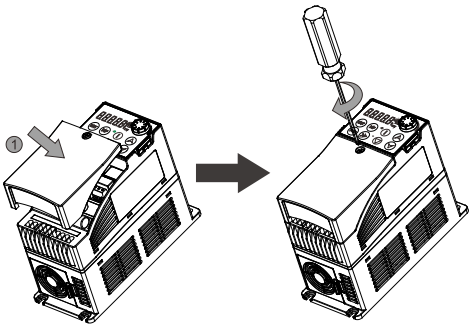


Figure C-4 Mounting Dimensions of Dual-Display External Keyboard Bracket (Unit: mm)

③ . Mounting dimensions of keypad

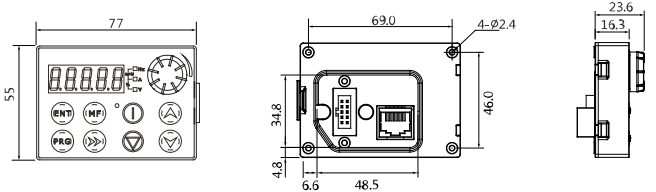


Figure C-5 Mounting dimensions of keypad (unit: mm)

According to the actual installation requirements,foot mounting method can be selected for the keypad, the hole sizes of the foot are as follows:

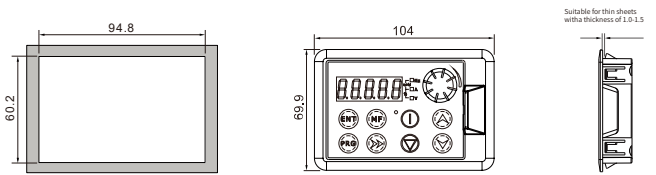


Figure C-6 Mounting dimensions of keypad foot (unit: mm)

Note: For S100 Series Vector Inverter, it is permitted that the connecting cable (RJ45 interface) between keypad control terminal and the inverter is less than 50m. In case that a larger distance is required, remote keypad should be equipped.

④ . Mounting dimensions of inverter

Applicable model of sizeA:

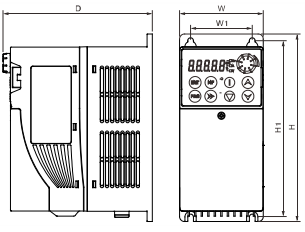


Figure C-7Mounting dimension of size A

Applicable model of sizeB:

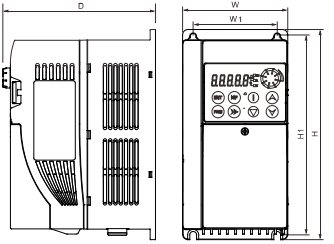


Figure C-8Mounting dimension of size B

Applicable model of sizeC:

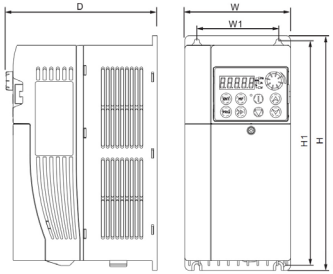


Figure C-9Mounting dimension of size C

⑤ . Mounting dimension of inverter

Size	Model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Applicable screw
A	S100(E)-2S00041N-A	60	81.5	171.5	182.5	145	M5
	S100(E)-2S00071N-A						
	S100(E)-2S00151N-A						
	S100(E)-4T00071N-A						
	S100(E)-4T00151N-A						
	S100(E)-4T00221N-A						
B	S100(E)-4T00401N-B	80	100	189	200	145	
C	S100(E)-2S00221N-C	85	110	230	240	158	
	S100(E)-2S00401N-C						
	S100(E)-4T00551N-C						
	S100(E)-4T00751N-C						

Appendix IV:Selection of Peripheral Electrical Components

Inverter Model	Air Circuit Breaker (A)	Magnetic Contactor (A)	Wire Diameter (Main Circuit) (mm^2)
S100-2S00041N-A	10	9	0.75
S100-2S00071N-A	16	12	0.75
S100-2S00151N-A	25	18	1.5
S100-4T00071N-A	6	9	0.75
S100-4T00151N-A	10	9	0.75
S100-4T00221N-A	10	9	0.75
S100-4T00401N-B	16	12	1.5
S100-2S00221N-C	40	32	2.5
S100-2S00401N-C	63	50	4
S100-4T00551N-C	32	25	2.5
S100-4T00751N-C	40	32	4

Appendix V:Selection of Braking Resistors

When the inverter drives the motor to reverse or decelerate to stop, the DC bus voltage of the inverter will rise due to the energy feedback from the motor. To prevent the inverter from stopping operation due to overvoltage protection, before the DC bus voltage reaches the protection point, the inverter will automatically turn on the dynamic braking circuit. The excess energy is released in the form of heat through the braking resistor, thereby suppressing the continuous rise of the voltage and ensuring the normal operation of the inverter.

① . Selection of Braking Resistor Resistance

During braking, almost all the regenerative energy from the motor is dissipated by the braking resistor.

It can be based on the formula: U×U/R = Pb

U — The braking voltage when the system is stably braking (the value varies with different system voltages; for a 380VAC system, it is generally 700V).

Pb — Braking power.

② . Selection of Braking Resistor Power

Theoretically, the power of the braking resistor is consistent with the braking power, but in practice, braking resistors are generally used with derating.

It can be calculated according to the formula:λ×Pr=Pb×ED%

λ — Derating coefficient, generally 70%.

Pr — Power of the braking resistor.

ED% — Braking duty cycle (the proportion of the energy regeneration process in the entire working process), generally 10%.

Please refer to the following table:

Load Type	Elevator	Winding/ Unwinding	Centrifuge	Occasional Braking Load	General Occasions
Braking Duty Cycle	20%~30%	20%~30%	50%~60%	5%	10%

③ . Braking Resistor Selection Table

Inverter Model	Braking Resistor Power (kW)	Braking Resistor Resistance (Ω)	Braking Unit
S100-2S00041N-A	⩾ 0.22	⩾ 100	Built-in standard configuration
S100-2S00071N-A	⩾ 0.22	⩾ 100	
S100-2S00151N-A	⩾ 0.22	⩾ 100	
S100-4T00071N-A	⩾ 0.30	⩾ 300	
S100-4T00151N-A	⩾ 0.30	⩾ 300	
S100-4T00221N-A	⩾ 0.30	⩾ 300	
S100-4T00401N-B	⩾ 0.75	⩾ 120	
S100-2S00221N-C	⩾ 0.33	⩾ 65	
S100-2S00401N-C	⩾ 0.33	⩾ 65	
S100-4T00551N-C	⩾ 1.00	⩾ 90	
S100-4T00751N- C	⩾ 1.39	⩾ 65	

Appendix VI:MODBUS Protocol Description

①. Function Code Parameter Address Marking Rules

The parameter address is indicated by the function code group number and label, following these rules:

- High byte: 00~FF
- Low byte: 00~FF

For example:
To access function code P03.12, the access address of the function code is expressed as 0x030C.

Notes:

Group P07: P07.11 is write-only; P07.06 is read-only; P07.07 and P07.02 are neither readable nor writable; other parameters are read/write according to their attributes.

Group P30: Parameters are read-only and cannot be modified.

Some parameters cannot be modified when the inverter is in operation; some parameters cannot be modified regardless of the inverter's state. When modifying function code parameters, attention should also be paid to the parameter range, unit, and related instructions.

Notes:

Function Code	Communication Access Address	Communication modification of function code address in RAM
P00-P17 Group	0x0000-0x111D	0x8000-0x911D
P19 Group	0x1300-0x1308	0x9300-0x9308
P30 Group	0x1E00-0x1E3B	

When there's no need to permanently save parameters, writing the parameter values to the RAM area suffices. When permanent parameter storage is required, write the parameter values to the EEPROM area. However, frequently writing parameter values to the EEPROM area will reduce its service life. To enable this function, simply change the highest bit of the function code address from 0 to 1.

For example:
Function code P03.12 is not stored in the EEPROM, and its address is expressed as 0x830C.
This address is only allowed for writing to RAM and cannot be used for reading operations; it is regarded as an invalid address when reading.

②. Description of Other Address Functions

Function Description	Parameter Address	Parameter Description	R/W
Shutdown/ Running Parameters	D100H	*Communication Settings (Decimal) (-10,000 ~ 10,000)	R/W
	D101H	Operating Frequency	R
	D102H	DC Bus Voltage	
	D103H	Output Voltage	
	D104H	Output Current	
	D105H	Output Torque	
	D106H	Output Torque	
	D107H	Operating Speed	
	D108H	DI Input Flag	
	D109H	RELAY Output Flag	
	D10AH	AI Voltage	
	D10BH	Reserved	
	D10CH	Load Speed	
	D10DH	PID Setpoint	
	D10EH	PID Feedback	
	D10FH	PLC Step	
	D110H	Feedback Speed	
	D111H	Remaining Run Time	
	D112H	AI Voltage Before Calibration	
	D113H	Reserved	
	D114H	Linear Speed	
	D115H	Current Power-On Time	
	D116H	Current Run Time	
	D117H	Communication Setpoint	
	D118H	Main Frequency X Display	
	D119H	Auxiliary Frequency Y Display	
	D11AH	Reserved	
	D11BH	Count Value	
	D11CH	Length Value	
	D11DH	Motor Speed	
	D11EH	Output Torque (Relative to Inverter Rated Torque)	

Function Description	Parameter Address	Parameter Description		R/W
Communication command control	D200H	0002: Reverse operation 0003: Forward jog 0004: Reverse jog 0005: Coast to stop 0006: Deceleration stop 0007: Fault reset 0008: Tuning start		W
Digital output terminal control	D201H	BIT0: Reserved BIT1: RELAY Output Control BIT2: Reserved BIT3: VDO1 BIT4: VDO2 BIT5: VDO3 BIT6: VDO4 BIT7: VDO5		W
Analog Output AO Control	D202H	0 ~ 7FFF indicates 0% ~ 100%		W
VFD status word	D300H	0001: Forward operation 0002: Reverse operation 0003: Stop		R
Inverter Fault Description	D400H	0000: No fault 0002: Overcurrent during acceleration 0003: Overcurrent during deceleration 0004: Overcurrent at constant speed 0005: Overvoltage during acceleration 0006: Overvoltage during deceleration 0007: Overvoltage at constant speed 0009: Undervoltage fault 000A: Inverter overload 000B: Motor overload 000C: Input phase loss	0013: Motor tuning fault 0015: Parameter read/write abnormality 0016: Parameter download abnormality 0017: Motor ground fault 0019: Test run time expired 001A: Operating time expired 001B: User-defined fault 1 001C: User-defined fault 2 001D: Power-on time expired 001E: Load loss 001F: PID feedback loss during operation 0023: Soft start fault	R

Function Description	Parameter Address	Parameter Description		R/W
Inverter Fault Description	D400H	000D: Output phase loss 000E: Module overheating 000F: External fault 0010: Communication abnormality 0011: Phase-to-phase short circuit 0012: Current detection fault	0028: Fast current limit timeout fault 0029: Motor switching fault during operation 002A:Excessive speed deviation 0037:Water shortage fault 0038:High water pressure fault 0039:Low water pressure fault	R
Parameter Lock Password Verification	070BH	Enter password (return 8888H if the password is correct)		W
Communication Fault	DD88H	0000: No fault 0001: Incorrect password 0002: Command code error 0003: CRC check error 0004: Invalid address 0005: Invalid parameter	0006: Parameter change invalid 0007: System locked 0008: EEPROM operation in progress 0009: Incorrect number of parameters for multi-byte write	

⚠WARNINGA

- Communication set values are percentages of relative values: 10,000 corresponds to 100.00%, -10,000 corresponds to -100.00%.
- For frequency-related data, this percentage is relative to the maximum frequency (P00.10).
- For torque-related data, this percentage is relative to P03.10 or P15.21 (torque upper limit digital setting for Motor 1 and Motor 2, respectively).
- R/W indicates the read/write characteristics of the function code.

③ . Read/Write Operation Instructions

(1) Read Command 03H: Command code 03H is used to read N words (max 12 words per command).

Example:

To read the preset frequency (Function Code P00.08, address 0008H) from the inverter with address 01H (assuming preset frequency is 50Hz):

Host Command:

Inverter Address	Read Command	Function Code Address	Number of Data Words	CRC Checksum
01	03	00 08	00 01	05 C8

The command information responded by the slave is as follows:

When correct, the command information responded by the slave is as follows:

When P13.05 is set to 0				
Inverter Address	Read Command	Number of Bytes	Data Content	CRC Checksum
01	03	00 02	13 88	E9 5C
When P13.05 is set to 1				
Inverter Address	Read Command	Number of Bytes	Data Content	CRC Checksum
01	03	02	13 88	B5 12

When an error occurs, the command information responded by the slave is as follows:

Inverter Address	Read Command	Communication Fault Address	Communication Fault Code	CRC Checksum
01	03	DD 88	XX XX	XX XX

(2) Command 06H: Command code 06H is used to write a single word.

Example:
To set the preset frequency of the inverter with address 01H to 50Hz (Function Code P00.08, corresponding address 0008H):

Based on the decimal place resolution, the fieldbus scaling factor for the preset frequency is 100.

Calculation: 50Hz × 100 = 5000 (decimal), which corresponds to 1388H in hexadecimal.

The command information sent by the host for writing to EEPROM is as follows:

Inverter Address	Write command	Function Code Address	Data Content	CRC Checksum
01	06	00 08	13 88	05 5E

When successful, the command information responded by the slave is as follows:

Inverter Address	Write command	Function Code Address	Data Content	CRC Checksum
01	06	00 08	13 88	05 5E

If the write operation is successful, the responded command information will be identical to the sent command information.

When an error occurs, the command information responded by the slave is as follows:

Inverter Address	Write command	Communication Fault Address	Communication Fault Code	CRC Checksum
01	06	DD 88	XX XX	XX XX

The command information sent by the host for writing to RAM is as follows:

Inverter Address	Write command	Function Code Address	Data Content	CRC Checksum
01	06	80 08	13 88	2C 9E

When successful, the command information responded by the slave is as follows:

Inverter Address	Write command	Function Code Address	Data Content	CRC Checksum
01	06	80 08	13 88	2C 9E

When an error occurs, the command information responded by the slave is as follows:

Inverter Address	Write command	Communication Fault Address	Communication Fault Code	CRC Checksum
01	06	DD 88	XX XX	XX XX

(3) Multi-byte Write Command 10H: Command code 10H is used to write multiple consecutive words (max 12 words).

Example:

To set Function Codes P11.00~P11.03 of the inverter with address 01H to 10.0%, 25.0%, 50.0%, 100.0% respectively (P11.00 corresponds to address 0B00H):

The command information sent by the host for writing to EEPROM is as follows:

Inverter Address	Multi-byte write command	Function Code Address	Number of Data Words	Number of Bytes
01	10	0B 00	00 04	08
Data Content	**Data Content**	**Data Content**	**Data Content**	**CRC Checksum**
00 64	00 FA	01 F4	03 E8	11 93

When successful, the command information responded by the slave is as follows:

Inverter Address	Multi-byte write command	Function Code Address	Data Content	CRC Checksum
01	10	0B 00	00 04	C3 EE

If the write operation is successful, the first six bytes of the responded command information will be identical to those of the sent command information

When an error occurs, the command information responded by the slave is as follows:

Inverter Address	Multi-byte write command	Communication Fault Address	Communication Fault Code	CRC Checksum
01	10	DD 88	XX XX	XX XX

The command information sent by the host for writing to RAM is as follows:

Inverter Address	Multi-byte write command	Function Code Address	Number of Data Words	Number of Bytes
01	10	8B 00	00 04	08

Data Content	Data Content	Data Content	Data Content	CRC Checksum
00 64	00 FA	01 F4	03 E8	EE 52

When successful, the command information responded by the slave is as follows:

Inverter Address	Multi-byte write command	Function Code Address	Data Content	CRC Checksum
01	10	8B 00	00 04	EA 2E

When an error occurs, the command information responded by the slave is as follows:

Inverter Address	Multi-byte write command	Communication Fault Address	Communication Fault Code	CRC Checksum
01	10	DD 88	XX XX	XX XX

WARNINGA

・The function codes of the frequency converter are stored in the EEPROM, which allows for repeated reads but should be modified sparingly. When programming, pay close attention to instructions that modify function codes. Avoid unconditional execution of these commands in the PLC program to prevent cyclic write operations via communication, which could damage the frequency converter’s memory.

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